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CALCULATION PACKAGE SUBMITTAL
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PRIVATE FUEL STORAGE FACILITY
PRIVATE FUEL STORAGE L.L.C.

The calculation listed below has been revised by International Civil Engineering Consultants, Inc. for the Private Fuel Storage Facility (PFSF) and is enclosed for your use.

- Storage Pad Analysis and Design, calculation number 0599602 – G(PO17) –2, Revision 3, dated April 5, 2001.

This calculation was revised to include the latest PFSF design ground motion and the increased pad size as discussed in License Amendment #22. As with the earlier transmittal of this calculation, the CECSAP Analysis Input and Output (Attachment A) and the SASSI/CECSAP Analysis Input and Output (Attachment B) are not included. If you have any questions regarding this submittal, please contact me at 303-741-7009.

Sincerely,

John L Donnell

John L. Donnell
Project Director
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Enclosure

NMSS01 Public

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CALCULATION COVER SHEET

PROJECT Private Fuel Storage Facility (PFSF)
SUBJECT Storage Pad Analysis and Design

JOB NO. 1101-000
FILE NO.
CALC NO. G(PO17)-2
NO. OF SHEETS 289

RECORD OF ISSUES

NO.	DESCRIPTION	BY	DATE	CHKD	DATE	APPRD	DATE
0	Initial Issue	my DH AUM KL	10/18/99	my DH AUM KL	10/18/99	WT	10/18/99
1	Revision 1 (see notes below)	DH KL	12/6/99	DH KL	12/6/99	WT	12/6/99
2	Revision 2 (see notes below)	DH	2/4/00	my	2/4/00	WT	2/4/00
3	Revision 3 (see notes on Sheet ii)	AUM KL my DH	4/5/01	AUM KL my DH	4/5/01	WT	4/5/01

☒ Nuclear Quality Assurance Category ☐ Non-Nuclear Quality Assurance Category

This set of calculations documents the engineering analyses and detailed calculations required for structural design of the reinforced-concrete spent-fuel cask storage pads to be constructed at the Private Fuel Storage Facility (PFSF) project site.

This set of calculations has been prepared in accordance with CEC's quality assurance procedure for nuclear projects.

Revision 1 was made to correct (1) typographical errors on Pages 5, 29, and A-3 and (2) insert computer output file names and explanation notes on Pages 43 and 51.

Revision 2 was made to correct typographical errors and to include additional clarifications on Pages 17, 21, 28, 236, 298, and 312.

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International Civil Engineering Consultants, Inc.

CALCULATION COVER SHEET

PROJECT	Private Fuel Storage Facility (PFSF)	JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design	FILE NO.	
		CALC NO.	G(PO17)-2
		SHEET	ii

Revision 3 was made to incorporate the following: (1) PGA of 0.711g and 0.695g for horizontal and vertical components of the new design ground motions, (2) Revised dynamic soil properties for lower-bound, best-estimate, and upper-bound soils provided by Geomatrix, (3) Revised cask force time-histories provided by Holtec, (4) Revised pad size to 30 ft by 67 ft with cask spacing in the long axis of the pad changed to 16 ft and cask spacing in the short axis of the pad remained at 15 ft, (5) Pad founded in soil cement with about 3 ft under the pad and 2 ft thick on its side walls, and (6) Revised transporter weight to 145 kips.

CALCULATION SHEET

ORIGINATOR	KC	DATE 4/5/01	CALC. NO.	REV.NO.	3
			CHECKED DH	DATE	4/5/01
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ATTACHMENT B SASSI/CECSAP ANALYSIS INPUT AND OUTPUT

CALCULATION SHEET

			CALC. NO.	G(PO17)-2	REV.NO. 3
ORIGINATOR	KW	DATE 4/3/01	CHECKED	DH	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET 1

1. OBJECTIVE

The objective of this set of calculations is to present the analyses and detailed calculations required for the design of the reinforced-concrete spent-fuel cask storage pads to be constructed at the PFSF project site.

2. ANALYSIS AND DESIGN SUMMARY

A. Pad Geometry and Support Condition

(a) Pad Dimensions: Length - 67'-0"
Width - 30'-0"
Thickness - 3'-0"

(b) Support Condition: Pad founded in soil cement with about 3'-thick under the pad and 2'-thick on its side walls

(c) Pad Top Surface Elevation: 3.5" above finished grade elevation

(d) Pad Bottom Surface Elevation: 2'-8-l/2" below finished grade elevation

B. Pad Structural Design

(a) Concrete: Normal weight concrete: $f_c^{'}$ = 3,000 psi at 28 days

(b) Reinforcing: ASTM A615 Grade 60 deformed bar: F_y = 60 ksi

(c) Horizontal (Flexural) Reinforcement:

Top Face: Two-way reinforcement with #11 @ 12" o.c. each way; longitudinal bars at the top at 2.875" below the top surface of the pad

Bottom Face - Two-way reinforcement with #11 @ 12" o.c. each way; longitudinal bars at the bottom at 3.875" above the bottom surface of the pad

(d) Vertical (Shear) Reinforcement: One #7 @ 12" o.c. each way in two ways distributed uniformly over the entire pad; each vertical bar with a 135° hook anchored to the top longitudinal bars and a 90° bend anchored to the bottom longitudinal bars.

C. Structural Strengths

(a) Ultimate static moment capacity $((\phi M_n)$ = 202 k-ft/ft

(b) Ultimate dynamic moment capacity $(\text{DIF} \times \phi M_n)$ = 225 k-ft/ft

(c) Ultimate static out-of-plane shear capacity (ϕV_n) = 110 k/ft

(d) Ultimate dynamic out-of-plane shear capacity $(\text{DIF} \times \phi V_n)$ = 121 k/ft

D. Structural Demand Loads

(a) Normal Loading Condition (1.4D + 1.7L + 1.7H), Envelope for 3 Soil Cases:

Maximum moment = 138 k-ft/ft

Maximum (flexural) shear force = 19 k/ft

(b) Accident-Level Loading Condition (D + L + H + E), Envelope for 3 Soil Cases:

Maximum moment = 218 k-ft/ft

Maximum (flexural) shear force = 58 k/ft

Maximum punching shear force = 98 k/ft

E. Soil Bearing and Sliding Stabilities

(a) Maximum soil bearing pressure under the static (dead plus live plus cask transporter) loading condition: 3.6 ksf

(b) Maximum soil bearing pressure under dynamic (dead plus live plus the design earthquake) loading condition: 7.4 ksf

3. REFERENCES

1. Stone & Webster Engineering Corporation (SWEC) Document, "Private Fuel Storage Facility Design Criteria," Rev. 3, October 23, 2000.

2. Stone & Webster Engineering Corporation (SWEC) Calc. No. G(B)-04, Rev. 4, September 3, 1999.

3. Fax transmittal of SWEC Calculation G(B)-05-1 from Paul J. Trudeau of SWEC to Wen S. Tseng of ICEC on "Revised Soil Properties and Coefficients of Subgrade Modulus," dated September 3, 1999.

4. Letter Transmittal from Jerry L. Cooper of SWEC to Wen S. Tseng of ICEC on "Cask Storage pad analysis," February 22, 2001.

5. Geomatrix Consultants, Inc., "Private Fuel Storage Facility - Soil and Foundation Parameters for Dynamic Soil-Structure Interaction Analyses," Calc. No. G(PO18)-2, Rev. 1, March 21, 2001.

6. International Civil Engineering Consultants, Inc., "Computer Program SASSI for IMB/RS-6000 Workstation, Version 1.2 - User's Manual," March 1997.

7. International Civil Engineering Consultants, Inc., "Computer Program CECSAP, Version 1.0 - User's Manual," October 1996.

8. E-mail Transmittal from Alan Solar of Holtec to Wen S. Tseng of ICEC on "Appendix B - Soil Spring Constants," March 1, 2001.

9. Fax transmittal from Stan Macie of SWEC to Wen S. Tseng of ICEC on "Holtec Tech Specs," dated August 13, 1999.

10. E-mail Transmittal from Jerry Cooper of SWEC to Kiat Lilhanand of ICEC on "HI-Storm Weight," March 5, 2001.

11. Fax transmittal from Stan Macie of SWEC to Wen S. Tseng of ICEC on "PFSF Pad Analysis," dated August 31, 1999.

12. E-mail Transmittal from Jerry Cooper of SWEC to Wen S. Tseng of ICEC on "Trasporter Dimensions," March 1, 2001.

13. Geomatrix Consultants, Inc., "Private fuel Storage Facility - Development of Time Histories for 2000 - Year Return Period Design Spectra," Calc. No. G(PO18)-3, Rev. 1, March 21, 2001.

14. E-mails Transmittal from Brian Gutherman of Holtec to Wen S. Tseng of ICEC on "Pad forces Files for 2, 4, and 8 Casks for Lower-Bound, Best-Estimate and Upper-bound Soils," February 23, 2001 and March 2, 2001.

15. ACI 349-85 (1990), "Code Requirements for Nuclear Safety Related Concrete Structures," American Concrete Institute, March 1990.

16. ASCE Standard 4-86, "Seismic Analysis of Safety Related Nuclear Structures and Commentary," American Society of Civil Engineers, September 1986.

17. Winter, G., Urquhart, L.C., O'Rourke, C.E., Nilson, A.H., Design of Concrete Structures, Seventh Edition, McGraw-Hill Book Company, 1964.

4. DESIGN INPUT PARAMETERS AND CRITERIA

4.1 Codes and Standards

The codes and standards used in the analysis and design of the storage pad are as follows:

1. ACI 349-85 (1990), "Code Requirements for Nuclear Safety Related Concrete Structures," American Concrete Institute, March 1990.
2. ASCE Standard 4-86, "Seismic Analysis of Safety Related Nuclear Structures and Commentary," American Society of Civil Engineers, September 1986.

4.2 Site Soil Condition

The local site soil profile at the cask storage area consists basically of three layers: an uppermost layer of silt, silty clay and clayey silt with layered thickness of 25 to 35 ft; followed by a layer of 25 to 30 ft thick of very dense fine sand overlying a silty layer, as shown in Fig. 1 (Ref. 1). Results of geophysical survey program indicate that the ground water table is at about 125 ft and the bedrock is between 520 ft and 880 ft below the ground surface.

The properties of the top soil layer based on the results of geotechnical investigations are estimated in Ref. 1 as follows:

(a) Effective-stress strength parameters for drained analyses:
Angle of internal friction $\phi = 30^{\circ}$ and cohesion c = 0 ksf.

(b) Total-stress strength parameters for undrained analyses (e.g., dynamic loadings):

$$\phi = 24.9^{\circ} \text{ and } c = 1.22 \text{ ksf}$$

(c) Coefficients of earth pressure, K:

- At-rest, $K_o = 0.5$
- Active, $K_a = 0.33$

(d) Coefficients of vertical subgrade reaction of in-situ soil, k (Refs. 1, 3, and 4):

$k = 2.75$ kips-ft/ft^2, for clayey soils

$k = 26.2$ kips-ft/ft^2, for cohesionless soils

The strain-compatible dynamic soil properties given in Refs. 5 used in the pad dynamic response analyses using SASSI computer program (Ref. 6) are shown in Table 1.

Table 1

Dynamic Soil Properties for SASSI Model

(Source: Reference 5)

Upper-Bound Properties

SHAKE Layers	Depth Top (ft)	Depth Bottom (ft)	Wave Velocity			Damping Ratio		Poisson's Ratio
			Density (pcf)	Vs (fps)	Vp (fps)	Shear (%)	Compression (%)	
1-2	0	5	100	2120	3380	0.91	0.91	0.176
3-4	5	10	80	557	1385	3.48	3.48	0.403
5	10	12	80	807	1543	2.69	2.69	0.312
6-7	12	18	100	983	1803	1.82	1.82	0.289
8-9	18	26	94	973	1764	2.31	2.31	0.281
10-12	26	35	115	1053	2042	5.07	5.07	0.319
13-15	35	50	115	1488	2949	4.04	4.04	0.329
16-23	50	90	120	2481	4808	1.21	1.21	0.318
24-26	90	125	135	4101	7104	4.28	4.28	0.250
27-35	125	300	145	4101	7104	4.28	4.28	0.250
36-39	300	500	145	5657	9798	3.10	3.10	0.250
40-41	500	700	145	6398	11155	2.53	2.53	0.255
	700		170	6398	11155	2.16	1.00	0.255

Best Estimate Properties

SHAKE Layers	Depth Top (ft)	Depth Bottom (ft)	Wave Velocity			Damping Ratio		Poisson's Ratio
			Density (pcf)	Vs (fps)	Vp (fps)	Shear (%)	Compression (%)	
1-2	0	5	100	1497	2390	0.94	0.94	0.177
3-4	5	10	80	415	1131	4.78	4.78	0.422
5	10	12	80	622	1260	3.60	3.60	0.339
6-7	12	18	100	779	1472	2.29	2.29	0.306
8-9	18	26	94	760	1440	3.01	3.01	0.307
10-12	26	35	115	818	1667	6.21	6.21	0.341
13-15	35	50	115	956	2085	6.13	6.13	0.367
16-23	50	90	120	1716	3400	1.74	1.74	0.329
24-26	90	125	135	2900	5023	4.32	4.32	0.250
27-35	125	300	145	2900	5023	4.32	4.32	0.250
36-39	300	500	145	3450	5975.5	3.67	3.67	0.250
40-41	500	700	145	3950	6841.5	3.33	3.33	0.250
	700		170	6398	11155	1.76	1.00	0.255

Table 1 (Cont'd)

Lower-Bound Properties

SHAKE Layers	Depth Top (ft)	Depth Bottom (ft)	Wave Velocity			Damping Ratio		Poisson's Ratio
			Density (pcf)	Vs (fps)	Vp (fps)	Shear (%)	Compression (%)	
1-2	0	5	100	1053	1690	1.08	1.08	0.183
3-4	5	10	80	298	923	6.57	6.57	0.442
5	10	12	80	622	1260	3.60	3.60	0.339
6-7	12	18	100	610	1202	2.97	2.97	0.327
8-9	18	26	94	593	1176	3.73	3.73	0.330
10-12	26	35	115	614	1361	8.09	8.09	0.372
13-15	35	50	115	565	1474	9.82	9.82	0.414
16-23	50	90	120	1191	2404	2.18	2.18	0.337
24-26	90	125	135	2051	3552	3.97	3.97	0.250
27-35	125	300	145	2051	3552	3.97	3.97	0.250
36-39	300	500	145	2051	3552	3.97	3.97	0.250
40-41	500	700	145	2051	3552	3.97	3.97	0.250
	700		170	6398	11155	2.16	1.00	0.255

CALCULATION SHEET

ORIGINATOR DH DATE 4/3/01 CALC. NO. G(PO17)-2 REV. NO. 3
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Figure 1
Site Soil Profile (Ref. 1)

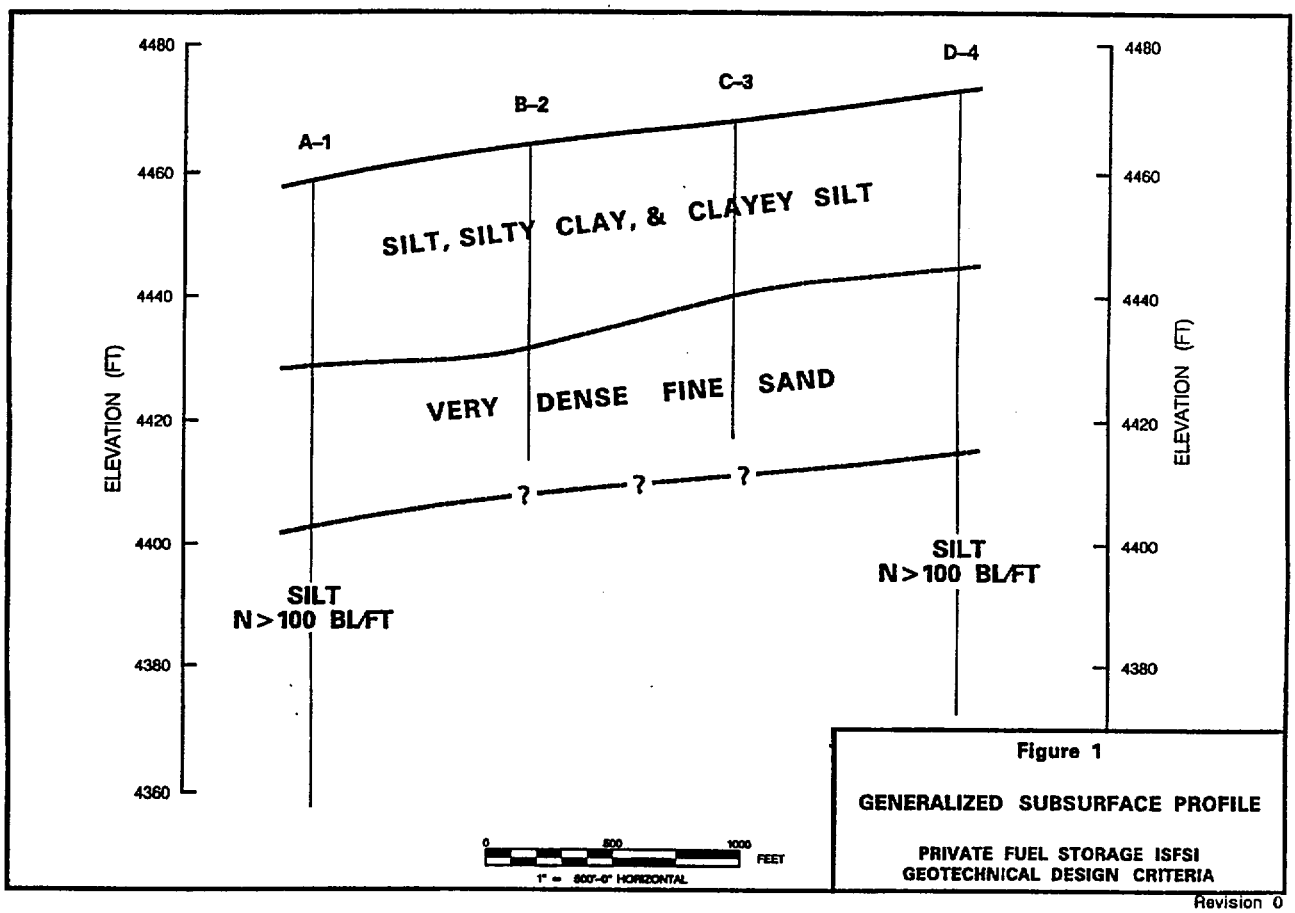

Figure 1

GENERALIZED SUBSURFACE PROFILE

PRIVATE FUEL STORAGE ISFSI
GEOTECHNICAL DESIGN CRITERIA

Revision 0

The soil spring stiffnesses, damping coefficient, and mass value used to represent the soil foundation for dynamic analyses of the pad using CECSAP program (Ref. 7) are, as developed by Holtec (Ref. 8), shown in Table 2 below:

Table 2

Vertical and Horizontal Soil Mass, Spring and Damping Constants

Storage Pad Analyses

Private Fuel Storage Facility

Soil Property[1] Cases	Direction of Excitation[2]	Soil Virtual Mass $M_s^{(3)}$ (lb-sec²/in)	Soil Spring Constant $K_s^{(3)}$ (lb/in)	Soil Damping Constant $C_s^{(3)}$ (lb-sec/in)
Best Estimate	V	5.798×10^3	2.370×10^7	6.052×10^5
	H_L	1.074×10^3	1.843×10^7	3.190×10^5
	H_S	1.074×10^3	1.940×10^7	3.357×10^5
Lower Bound	V	5.785×10^3	1.204×10^7	4.473×10^5
	H_L	1.071×10^3	9.037×10^6	2.276×10^5
	H_S	1.071×10^3	9.512×10^6	2.395×10^5
Upper Bound	V	5.823×10^3	5.405×10^7	8.794×10^5
	H_L	1.078×10^3	4.343×10^7	4.788×10^5
	H_S	1.078×10^3	4.572×10^7	5.040×10^5

Notes:
(1) Soil properties for each case are defined by Geomatrix (Ref. 5)
(2) V = Vertical direction, H_L = Horizontal long direction of the pad, and H_S = Horizontal short direction of the pad.
(3) Obtained from Holtec (Ref.8)

4.3 Geometry and Material Specifications

4.3.1 Geometry

The configuration of the storage pad having dimensions of 67' x 30' x 3' supporting 8 dry storage casks considered in the analysis and design of the pad is as specified in Ref. 4 and shown on the following page.

4.3.2 Material Specifications

The properties of concrete and reinforcing bars used for the design of the pad are as specified in Ref. 9 as follows:

Concrete: Normal Weight Concrete

f'_c = Compressive strength = 3,000 psi

E_c = Modules of elasticity = 57,000 $\sqrt{f'_c}$ = 3.12 x 10^6 psi

γ_c = Unit weight = 150 lb/ft^3

ν_c = Poisson's ratio = 0.17

Reinforcing Bar: ATSM A615 Grade 60 Billet Steel

F_y = Specified minimum yield strength = 60 ksi

E_s = Modulus of elasticity = 29,000 ksi

CALCULATION SHEET

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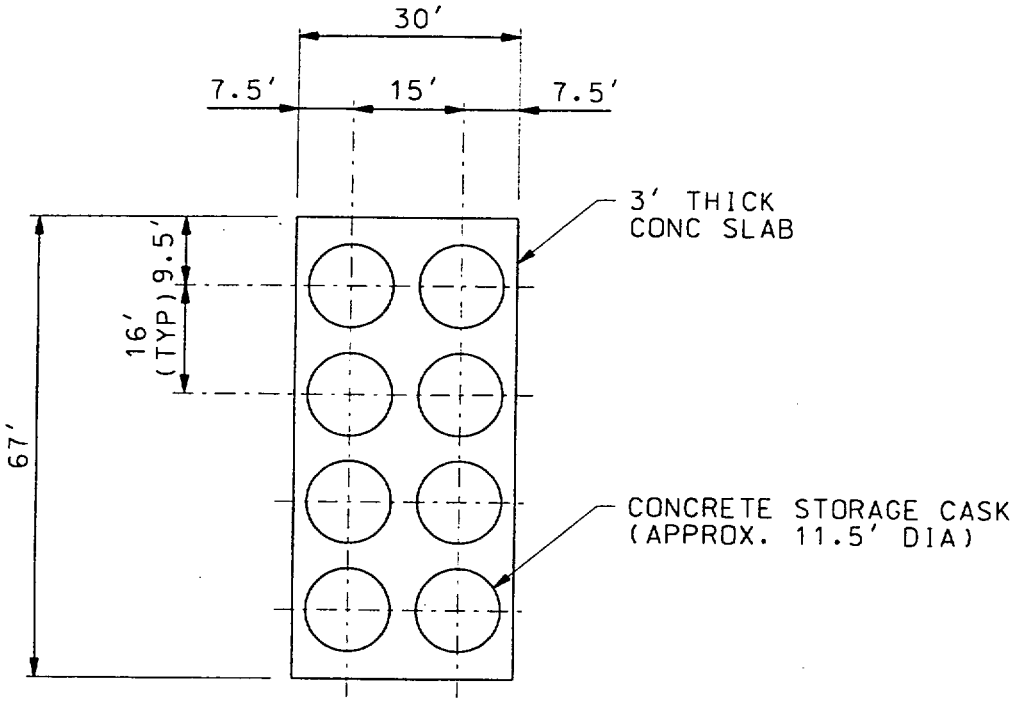


TYP STORAGE PAD
(500 REQD)
SCALE: NONE

Source: Drawing No. PFSF-SK-001 (Ref. 4)

4.4 Design Loads

Design Loads considered in the analysis and design of the pad consists of the following:

4.4.1 Dead Load (D)

The dead load (D) considered is the gravitational dead weight of the reinforced concrete pad based on:

- Gross unit weight of the concrete pad = 150 pcf

4.4.2 Live Load (L)

The live load (L) considered is the gravitational dead weight of the fully loaded dry cask and the snow load.

- Weight of each fully-loaded dry cask = 360 kips (Ref. 10)
- Snow load = 45 psf (Ref. 11)

Four dry cask storage configurations are considered:

- 2, 4, and 8 casks
- 7 casks with one cask being transported on the pad by cask transporter
- Weight of transporter = 145 kips (Ref. 12)
- An impact (amplification) factor of 2.0 is conservatively assumed and applied to one-half of the weight of transporter plus one fully-loaded cask to account for the dynamic effect associated with cask transporting

4.4.3 Lateral Soil Pressure (H)

The lateral soil pressure (H) acting on the pad's perimeter wall considered is based on the properties of structural backfill soil (Ref. 1) as follows:

Unit weight of soil = 125 pcf

Active earth pressure coefficient (K_a) = 0.27

4.4.4 Operating and Accident Thermal Loads (T and T_a)

Since the storage pad is supported freely on the ground surface, the loads due to T and T_a are assumed to produce negligible effect for the design of the pad.

4.4.5 Wind Load (W) and Tornado Wind and Missile Load (W_t)

For the design of the pad, the wind load (W) and tornado wind and missile load (W_t) is assumed to affect only the storage casks but not the pad. Thus, its effects are not considered in the design of the pad.

4.4.6 Earthquake Load (E)

The earthquake load (E) considered for the design of the pad is based on the horizontal and vertical design ground motion response spectra (Ref. 13) developed for the site.

For design of the pad, the maximum horizontal (a_h) and vertical (a_v) pad response accelerations based on the Holtec's seismic response analysis results

coupled with the dry cask seismic response reaction force time histories acting on the pad (Ref. 14) with 2, 4, and 8 cask storage configurations are considered. Values of $a_h = 0.711g$ and $a_v = 0.695g$ are used in the design.

4.5 Load Combinations

Load combinations in accordance with ACI 349-85 (1990) are considered in the pad design as follows:

Loading Condition		Load Combinations
Normal Condition	(1)	1.4D + 1.7L
	(2)	1.4D + 1.7L + 1.7H
Off-Normal Condition	(1)	0.75 (1.4D + 1.7L + 1.7H + 1.7T)
	(2)	0.75 (1.4D + 1.7L + 1.7H + 1.7T + 1.7W)
Accident-Level Condition	(1)	D + L + H + T + E
	(2)	D + L + H + T_a

Since T, T_a, W, and W_t are assumed negligible for the design of the pad, the governing load combinations considered in design become:

Loading Condition	Loading Combination
Normal condition	1.4D + 1.7L + 1.7H
Accident-level condition	D + L + H + E

4.6 Acceptance Criteria

The acceptance criteria for design are in accordance with the strength design (U_c) provisions of ACI-349-85 (1990) as follows:

Loading Condition	Acceptance Criteria
Normal condition	$U_c > 1.4D + 1.7L + 1.7H$
Accident-level condition	$U_c > D + L + H + E$

5. DESIGN ANALYSIS

5.1 Static and Dynamic Analyses Using CECSAP

5.1.1 Mathematical Model

A mathematical model was developed for the analyses using program CECSAP (Ref. 7).

Total number of nodes: 299

Elements used:

- 264 plate elements with thickness of 3 ft to model the pad
- 299 vertical boundary elements (Z-direction)
- 299 horizontal boundary elements in X-direction (short direction of the pad)
- 299 horizontal boundary elements in Y-direction (long direction of the pad)

These boundary elements are used to model soil stiffnesses associated with the motion directions. In other words, each node has three soil springs attached for the three directions of motion.

- Likewise, there are three damper elements assigned to every node to model the soil damping effect. There are a total of 897 damper elements.

The finite element mesh is shown in Fig. 5.1-1with node number labelled. The 299 nodes are arranged in 23 rows of 13 nodes. The distances between two consecutive nodes in each row are from left to right, 1.98', 2.76', 2.76', 2.76',

2.76', 1.98', 1.98', 2.76', 2.76', 2.76', 2.76', 1.98'. The distances between rows are, from bottom to top, 3.98', 2.76', 2.76', 2.76', 2.76', 4.96', 2.76', 2.76', 2.76', 2.76', 2.48', 2.48', 2.76', 2.76', 2.76', 2.76', 4.96', 2.76', 2.76', 2.76', 2.76', , and 3.98'. The mesh is symmetrical with respect to both centerlines of the pad with node no. 150 at the center of the pad. Figure 5.1-2 shows the mathematical model with plate element numbers (total = 264). A single node is assigned to every loading point for each cask. The loading nodes for all casks are:

Cask No.	Quadrant 1	Quadrant 2	Quadrant 3	Quadrant 4
1	277	249	225	253
2	283	255	231	259
3	212	184	160	188
4	218	190	166	194
5	134	106	82	110
6	140	112	88	116
7	69	41	17	45
8	75	47	23	51

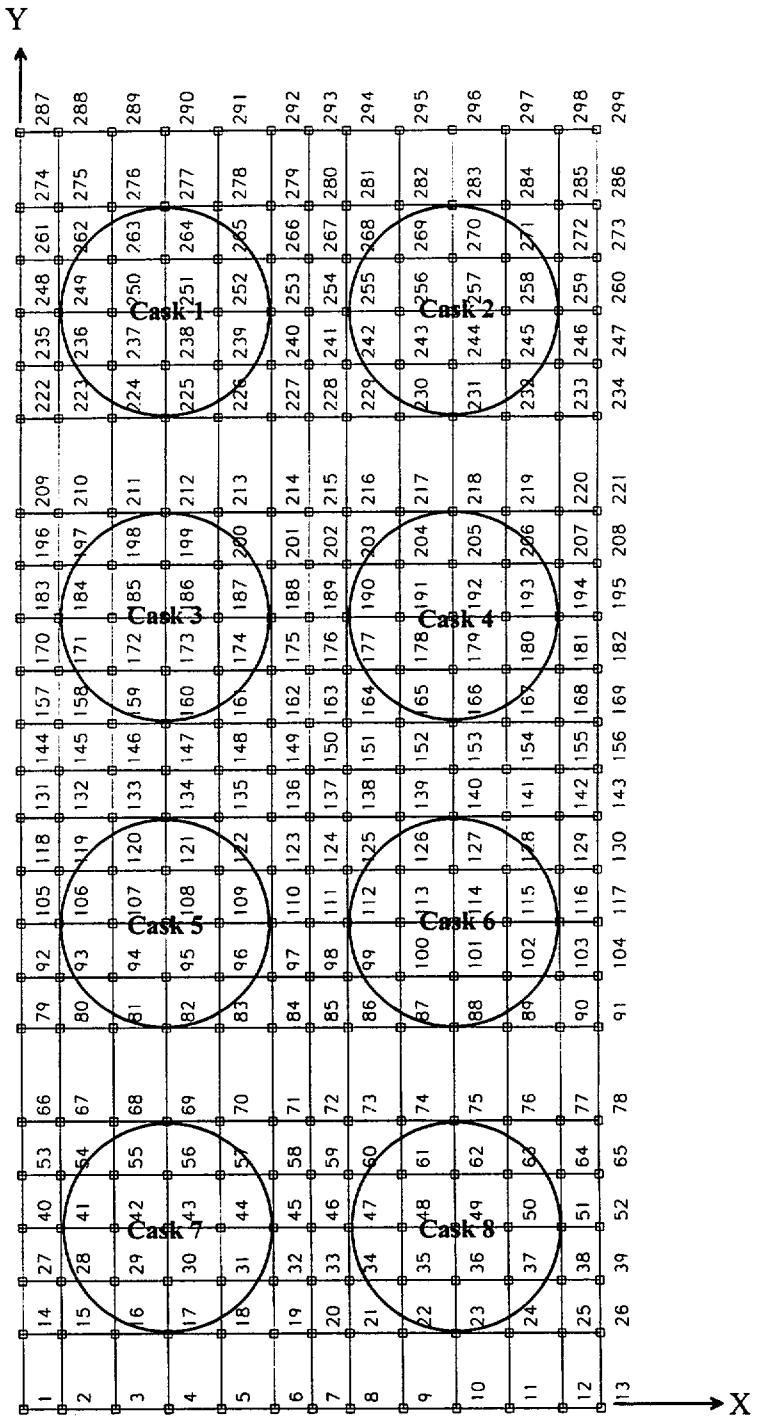


Figure 5.1-1 CECSAP Finite-Element Model with Node Numbers

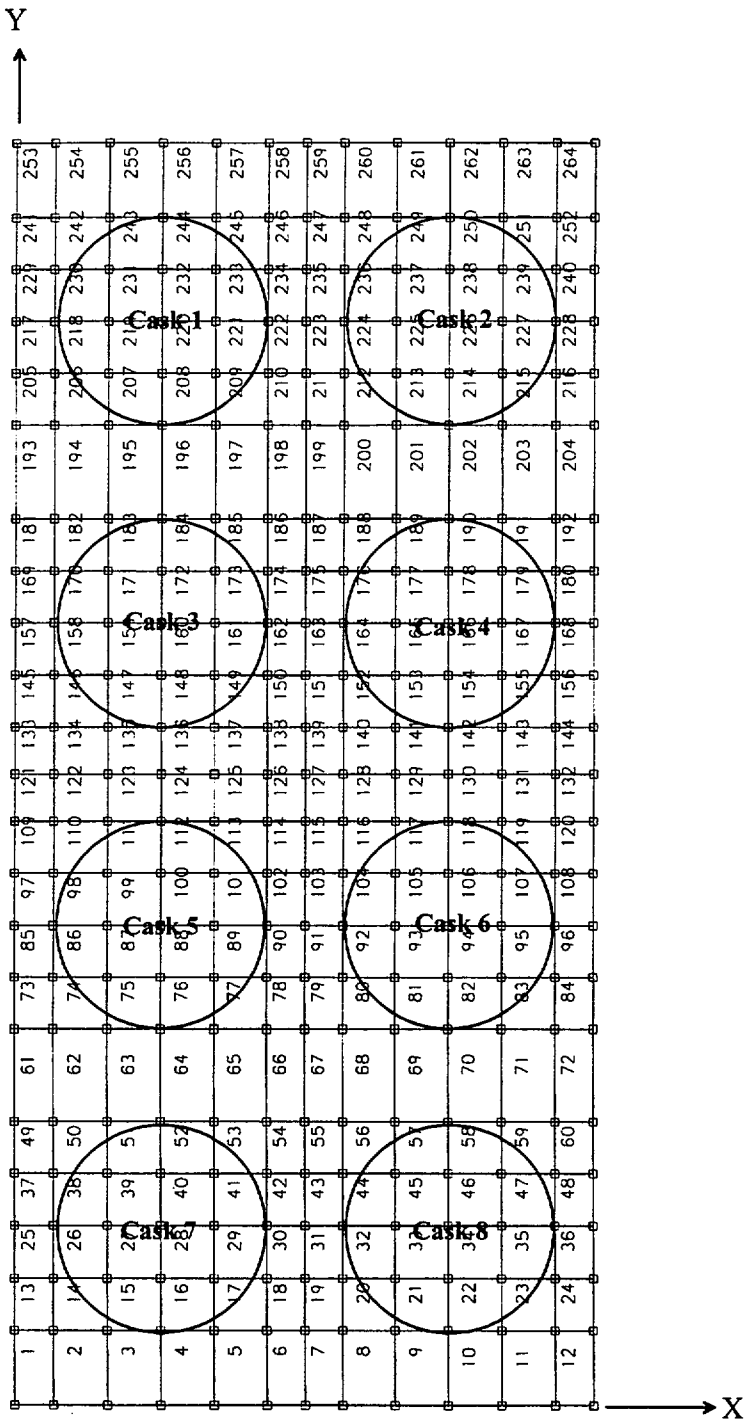


Figure 5.1-2 CECSAP Finite-Element Model with Element Numbers

Local Axes of Plate Elements

In the CECSAP model, the local plate coordinate system coincides with the global system. Thus, the moment M_{xx} of a plate element is for bending about the global Y-axis and M_{yy} for bending about global X-axis.

Material Properties of Concrete Pad (Plate Elements)

Concrete Young's modulus, E

$$E = 57000\sqrt{f_c'} \qquad f_c' = 3000 \text{ psi}$$

$$= 3{,}122 \text{ ksi}$$

$$= 449{,}568 \text{ ksf}$$

Poisson's Ration $\nu = 0.17$

Thus, the material matrix for isotropic membrane stiffness of the plate required for input to CECSAP is as follows:

$$\begin{Bmatrix} \sigma_{xx} \\ \sigma_{yy} \\ \tau_{xy} \end{Bmatrix} = \frac{E}{1-\nu^2}\begin{bmatrix} 1 & \nu & 0 \\ \nu & 1 & 0 \\ 0 & 0 & (1-\nu)/2 \end{bmatrix}\begin{Bmatrix} \varepsilon_{xx} \\ \varepsilon_{yy} \\ \varepsilon_{xy} \end{Bmatrix} = \begin{bmatrix} 462{,}947 & 78{,}701 & 0 \\ 78{,}701 & 462{,}947 & 0 \\ 0 & 0 & 192{,}123 \end{bmatrix}\begin{Bmatrix} \varepsilon_{xx} \\ \varepsilon_{yy} \\ \varepsilon_{xy} \end{Bmatrix}$$

where σ_{xx}, σ_{yy}, τ_{xy} are normal and shear stresses, and ε_{xx}, ε_{yy}, ε_{xy} are the corresponding strains.

The mass density of the pad is 0.15/32.2 = 0.0046584 $\dfrac{k-s^2}{ft^4}$.

5.1.2 Static Analyses

There are two types of static analyses carried out by CECSAP:

- Dead Load Analysis (see Table 3)

  There are two dead load (D) analysis cases:

  Case S-1. Dead load of pad weigh only with the lower-bound (LB) subgrade modulus of 2.75 kcf.

  Case S-2. Dead load of pad weigh only with the upper-bound (UB) subgrade modulus of 26.2 kcf

- Live Load Analyses (see Table 3)

  There are two live load (L) cases (S-3 and S-4). For each of these two analysis cases, there are four types of cask loading on the pad as follows:

  1. 2 Casks - Cask Nos. 1 and 2
  2. 4 Casks - Cask Nos. 1, 2, 3, and 4
  3. 8 Casks - Cask Nos. 1 through 8
  4. 7 casks plus one transporter carried 1 cask (7+OLT)

  The full-weight of a cask is 360 kips (Ref. 10). It is evenly distributed at four loading points of the four quadrants of the cask.

Table 3

Static and Dynamic Analysis Cases

Analysis Type	Case No.	No. of Cask	Static Loading				Dynamic Loading		
			D/LB	D/UB	L/LB	L//UB	LB	BE	UB
Static	S-1	-	O						
	S-2	-		O					
	S-3	2			O				
		4			O				
		8			O				
		7+OLT			O				
	S-4	2				O			
		4				O			
		8				O			
		7+OLT				O			
Dynamic	D-1						O		
	D-2						O		
	D-3						O		
	D-4							O	
	D-5							O	
	D-6							O	
	D-7								O
	D-8								O
	D-9								O

Notes:

(1) D/LB and L/LB = Dead load (pad wt. only) and live load (cask weight) with a lower-bound (LB) soil subgrade modulus of 2.75 kcf.

(2) D/UB and L/LB = Dead load (pad wt. only) and live load (cask weight) with an upper-bound (UB) soil subgrade modulus of 26.2 kcf.

(3) LB, BE, UB = Lower-bound, Best-Estimate, Upper-Bound dynamic soils (see Table 2 for values of soil mass, spring, and damping constants).

(4) OLT = One loaded transporter carried Cask 1 with 100% impact factor.

Application of Live Loads

For Cases S-3 and S-4, the weight of each cask was applied evenly at four loading points of the four quadrants.

1 Casks 1 and 2

2 Casks 1, 2, 3, and 4

3 Casks 1, 2, 3, 4, 5, 6, 7, and 8

4* Casks 2, 3, 4, 5, 6, 7, 8 and transporter carrying Cask 1

*Note: Only half of the transporter weight was used because only half of the transporter can be up on the pad during placement of Cask 1 due to its size. A dynamic impact factor of 2 was used, i.e., (0.5 x 145 + 360) 2 = 865 kips. This load of 865 kips is applied evenly to nodes 222 through 227 and nodes 274 through 279.

Mathematical Model for Static Analyses

The mathematical model used for static analyses is basically the same as the one used for dynamic analyses with changes made to the following:

1. The vertical soil spring stiffnesses used are calculated from the subgrade moduli of 2.75 and 26.2 kip/ft^3 for the lower-bound and upper-bound soils, respectively (Ref. 1).
2. No damper elements were used in static analyses.

5.1.3 Dynamic Analyses

Dynamic Loading

The dynamic loading on the pad is defined by force time histories of casks resulting from seismic input motions for 2000-year earthquake event (Ref. 13). For each cask, there are six force time histories: 4 vertical force time histories defining the vertical (Z) loading at four quadrants of the cask, and two force time histories defining horizontal loadings in the X and Y directions.

There are 9 dynamic analysis cases considered as shown in Table 3, consisting of 3 site conditions (lower-bound (LB), best-estimate (BE), and upper-bound (UB) soils) times 3 cask loading conditions as follows:

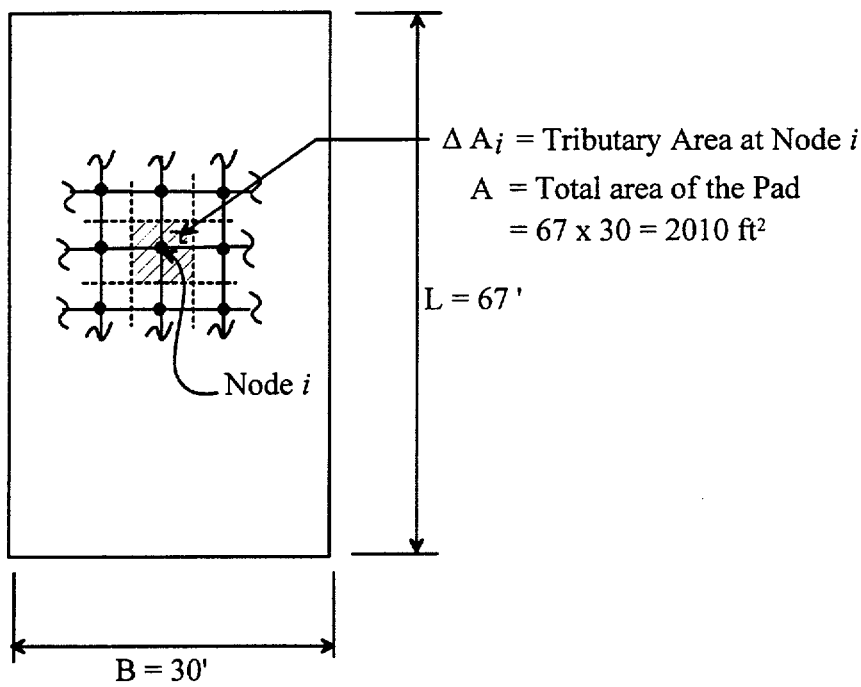
- 2 Casks: Casks 1 and 2
- 4 Casks: Casks 1, 2, 3, and 4
- 8 Casks: Casks 1, 2, 3, 4, 5, 6, 7, and 8

Therefore, the loadings for the 2-cask case were defined by 12 force time histories. Similarly, 24 and 48 time histories were used to define loadings for the 4-cask and 8-cask cases, respectively.

Dynamic Soil Properties: Stiffness, Damping and Mass

Dynamic soil stiffness (K_d), damping (C_d), and mass (M_d) for the entire pad are distributed uniformly, according to the tributary area of each node, to all nodes on the pad. The values of K_d, C_d, and M_d for the vertical and horizontal directions were obtained from Holtec (Ref. 8), as shown in Table 2.

The soil parameters are distributed over the tributary area of each node on the concrete pad as shown below:



The horizontal and vertical soil spring stiffness, damping and mass constants attached to node "i" on the pad are each calculated using the following equations:

$$K_i = K_s \times \Delta A_i/A$$

$$C_i = C_s \times \Delta A_i/A$$

$$m_i = m_s \times \Delta A_i/A$$

In the above modelling of the dynamic vertical soil springs, it is assumed that the vertical response of the pad is mainly influenced by the vertical vibration mode and the influence of the rocking vibration mode is assumed to be relatively small. Thus, only the vertical soil springs given by Holtec were used for developing the vertical soil springs attached to each of the nodes on the pad model.

<u>Proportional Damping for Pad</u>

Stiffness proportional damping $\beta[K]$ was used, i.e.,

$$\underset{\text{pad}}{[C]} = \beta \underset{\text{pad}}{[K]}$$

where $[C]$ = damping matrix, $[K]$ = stiffness matrix, and β = constant. The constant β is determined by letting α = damping ratio = .07 at f = frequency = 25 Hz as follows:

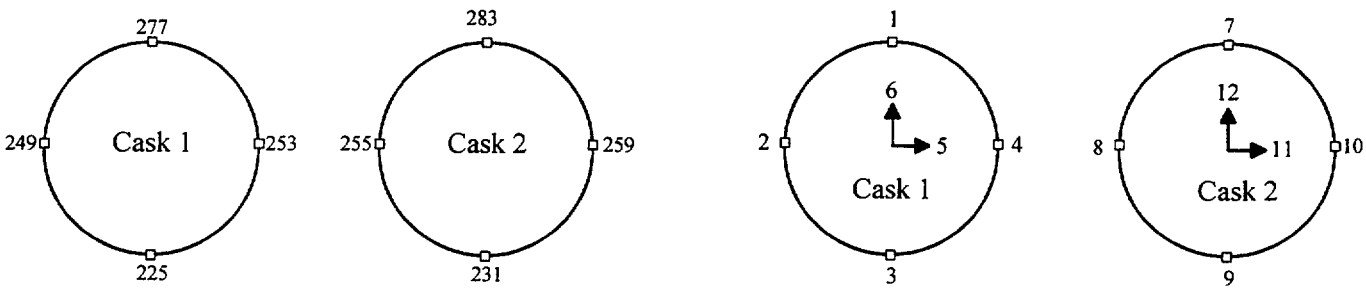
$$\beta = \frac{\alpha T}{\pi} = \frac{\alpha}{f\pi} = \frac{0.07}{25.\pi} = 0.00089127$$

Note: $\beta[K]$ and the soil dampers constitute the damping matrix of the structure (pad)-soil system.

Force Time History Assignment

The force time history data resulting from 2, 4, and 8 casks on the pad were provided by Holtec (Ref. 14). For each of these three cask conditions, there are three sets of data corresponding to the best-estimate, lower- and upper-bound soil properties. The friction between pad and casks used for generating these data is 0.8. The time history plots for these data are included in Attachment A-1. Note that the static gravity load was not included in the dynamic loads. In the following sheets, the loading time histories are assigned to proper loading nodes for 2-cask, 4-cask, and 8-cask. Note that the horizontal loads for a cask were distributed evenly to the four loading nodes at the four quadrants. This is achieved by assigning each horizontal component to four loading points at the four quadrants of the associated cask and then using a scale factor of 0.25 to return the total effect back to one.

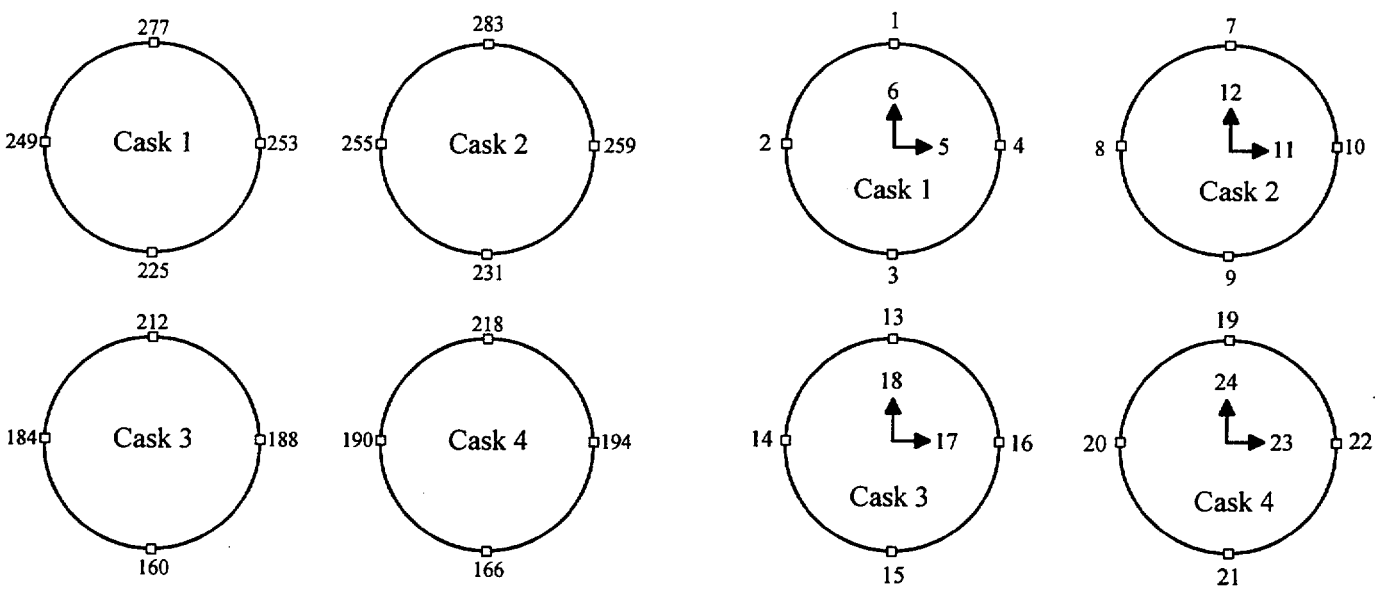
2-Cask Nodal Force Input Time History Numbers Assignment



Node Numbers Where Input Time Histories are Applied

Input Time Histories Numbers

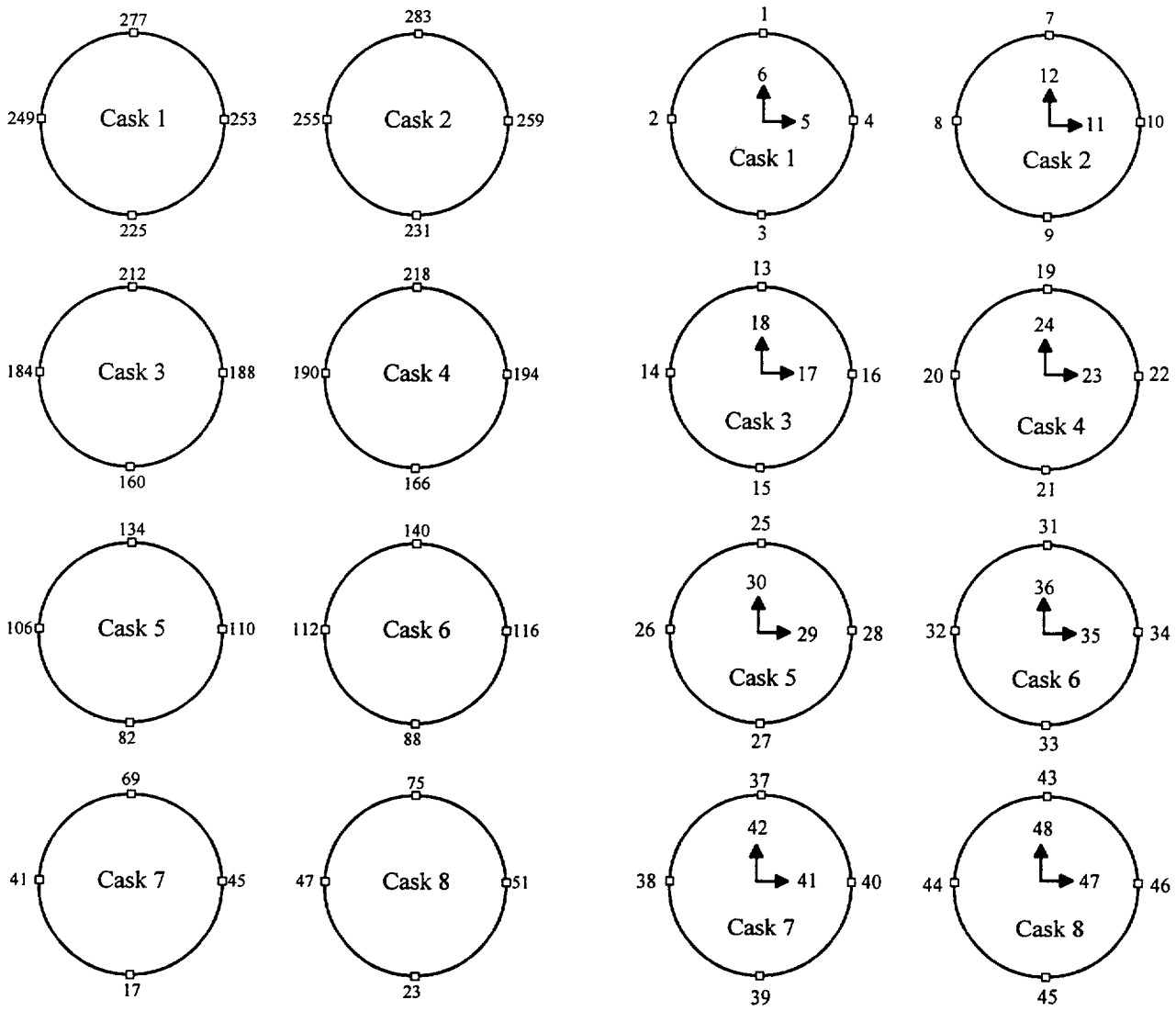
4-Cask Nodal Force Input Time History Numbers Assignment



Node Numbers Where Input Time Histories are Applied

Input Time Histories Numbers

8-Cask Nodal Force Input Time History Numbers Assignment



Node Numbers Where Input Time Histories are Applied

Input Time Histories Numbers

2-Cask Nodal Force Load Time History Number Assignment

Cask No.	Node No.	Comp. No.	TH No.	Arrival Time	Scale Factor
1	277	1	5	0	-0.25
	277	2	6	0	-0.25
	277	3	1	0	-1
	249	1	5	0	-0.25
	249	2	6	0	-0.25
	249	3	2	0	-1
	225	1	5	0	-0.25
	225	2	6	0	-0.25
	225	3	3	0	-1
	253	1	5	0	-0.25
	253	2	6	0	-0.25
	253	3	4	0	-1
2	283	1	11	0	-0.25
	283	2	12	0	-0.25
	283	3	7	0	-1
	255	1	11	0	-0.25
	255	2	12	0	-0.25
	255	3	8	0	-1
	231	1	11	0	-0.25
	231	2	12	0	-0.25
	231	3	9	0	-1
	259	1	11	0	-0.25
	259	2	12	0	-0.25
	259	3	10	0	-1

Note: Factor of 0.25 was used to distribute horizontal loads evenly to four loading points. Negative signs indicate that the loads are acting downward on the pad.

4-Cask Nodal Force Load Time History Number Assignment

For Casks 1 & 2, use previous sheet.

For Casks 3 & 4, use the following assignment.

Cask No.	Node No.	Comp. No.	TH No.	Arrival Time	Scale Factor
3	160	1	17	0	-0.25
	160	2	18	0	-0.25
	160	3	15	0	-1
4	166	1	23	0	-0.25
	166	2	24	0	-0.25
	166	3	21	0	-1
3	184	1	17	0	-0.25
	184	2	18	0	-0.25
	184	3	14	0	-1
3	188	1	17	0	-0.25
	188	2	18	0	-0.25
	188	3	16	0	-1
4	190	1	23	0	-0.25
	190	2	24	0	-0.25
	190	3	20	0	-1
4	194	1	23	0	-0.25
	194	2	24	0	-0.25
	194	3	22	0	-1
3	212	1	17	0	-0.25
	212	2	18	0	-0.25
	212	3	13	0	-1
4	218	1	23	0	-0.25
	218	2	24	0	-0.25
	218	3	19	0	-1

Note: Factor of 0.25 was used to distribute horizontal loads evenly to four loading points. Negative signs indicate that the loads are acting downward on the pad.

8-Cask Nodal Load Time History Assignment

For Casks 1, 2, 3, and 4, see previous two sheets.

For Casks 5 through 8, use the following assignment.

Cask No.	Node No.	Comp. No.	TH No.	Arrival No.	Scale Factor	Cask No.	Node No.	Comp. No.	TH No.	Arrival No.	Scale Factor
	82	1	29	0	-0.25		17	1	41	0	-0.25
5	82	2	30	0	-0.25	7	17	2	42	0	-0.25
	82	3	27	0	-1		17	3	39	0	-1
	88	1	35	0	-0.25		23	1	47	0	-0.25
6	88	2	36	0	-0.25	8	23	2	48	0	-0.25
	88	3	33	0	-1		23	3	45	0	-1
	106	1	29	0	-0.25		41	1	41	0	-0.25
5	106	2	30	0	-0.25	7	41	2	42	0	-0.25
	106	3	26	0	-1		41	3	38	0	-1
	110	1	29	0	-0.25		45	1	41	0	-0.25
5	110	2	30	0	-0.25	7	45	2	42	0	-0.25
	110	3	28	0	-1		45	3	40	0	-1
	112	1	35	0	-0.25		47	1	47	0	-0.25
6	112	2	36	0	-0.25	8	47	2	48	0	-0.25
	112	3	32	0	-1		47	3	44	0	-1
	116	1	35	0	-0.25		51	1	47	0	-0.25
6	116	2	36	0	-0.25	8	51	2	48	0	-0.25
	116	3	34	0	-1		51	3	46	0	-1
	134	1	29	0	-0.25		69	1	41	0	-0.25
5	134	2	30	0	-0.25	7	69	2	42	0	-0.25
	134	3	25	0	-1		69	3	37	0	-1
	140	1	35	0	-0.25		75	1	47	0	-0.25
6	140	2	36	0	-0.25	8	75	2	48	0	-0.25
	140	3	31	0	-1		75	3	43	0	-1

Note: Factor of 0.25 was used to distribute horizontal loads evenly to four loading points. Negative signs indicate that the loads are acting downward on the pad.

5.1.4 Dynamic Analysis Output Selection

The following response quantities were selected for output for all cases of dynamic analyses.

Displacements

Three components (U_x, U_y, U_z) of displacement at all nodes in the two long side edges of pad, the long centerline, the short center line, the top short edge and one section in the short direction between the top edge and short center line as indicated by the solid lines in the Fig. 5.1.4-1(a).

Soil Spring Force Output Selection

Forces in vertical soil springs attached to nodes numbered from 144 to 299 were selected for output. The vertical springs selected are located from the center line of the pad in the short direction to the upper edge of the pad. See shaded area in Fig. 5.1.4-1(b).

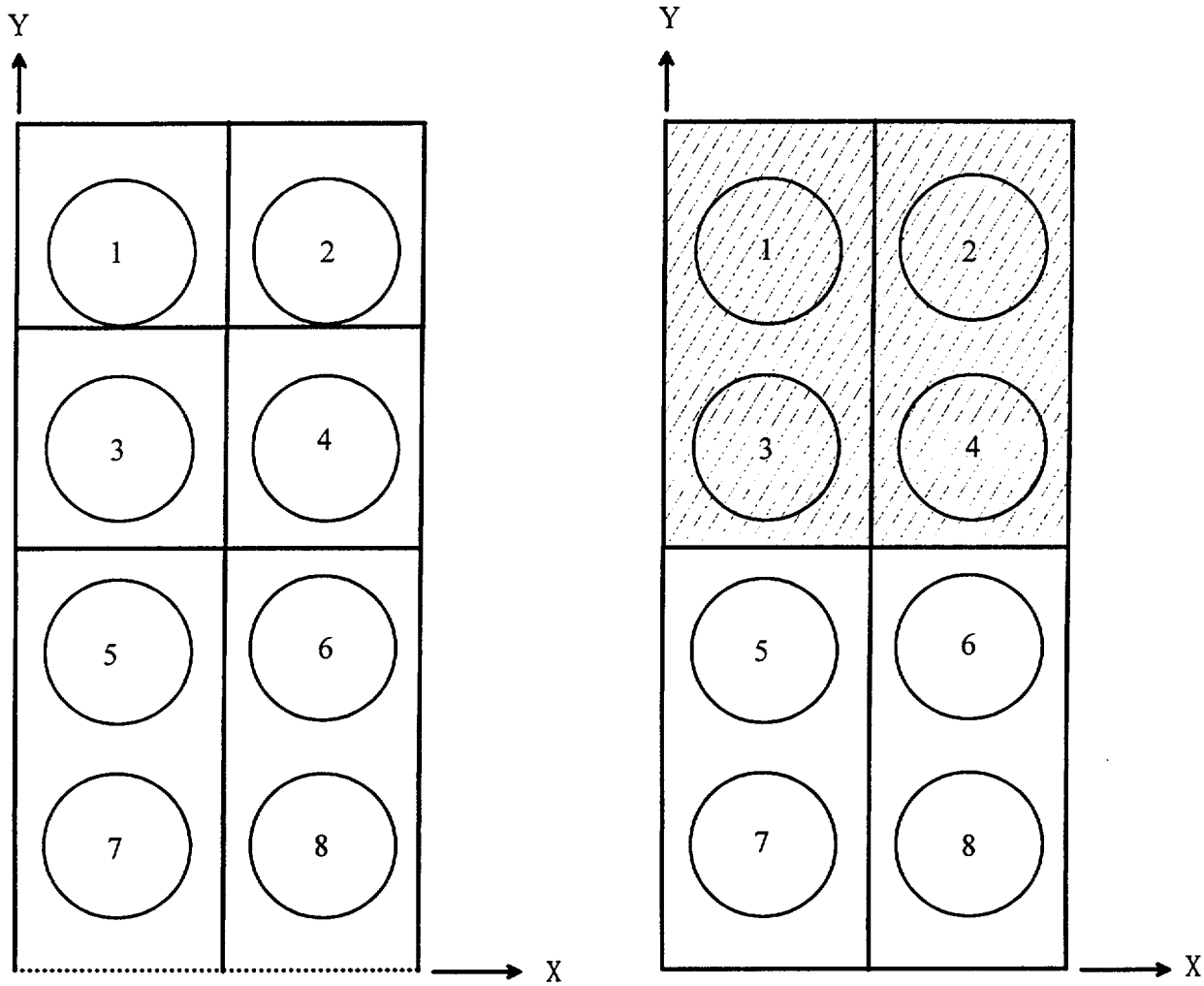
Shear force Output

Since the plate element used in CECSAP does not output shear force values, the shear forces in the pad were calculated by moment gradient as described in Section 5.1.6.

Pad Moments and Forces Output Selection

Plate bending moments (M_{xx}, M_{yy}) and shell membrane forces (S_{xx}, S_{yy}) were selected for output. Plate element numbers 133 to 264 were selected as shown by the shaded area in Fig. 5.1.4-2(a). These elements represent half of the pad where casks 1 through 4 are located. Since the maximum moments and forces for the 8-cask can occur on the other half of the pad, three additional analyses were performed for the three (LB, BE, and UB) soil conditions with the casks flipped about the X axis, as shown in Fig 5.1.4-2(b). Thus, the same elements as listed above could be selected for the output. The node number associated with the time history input for these additional analysis cases is shown in Fig. 5.1.4-3.

Output Selection for Dynamic Analysis



Node Numbers Selected for Displacements (Solid Lines)

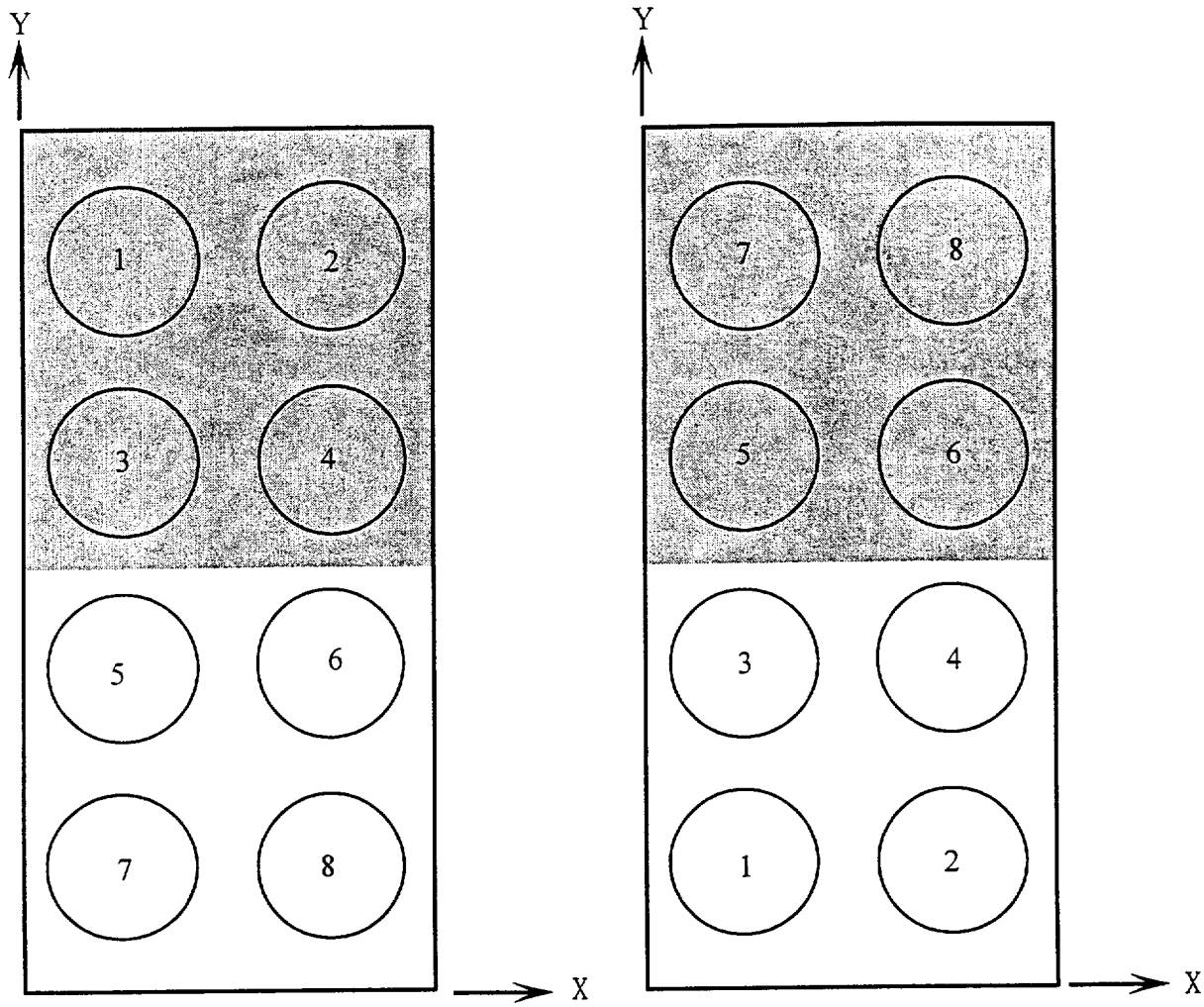
(a)

Node Numbers Selected for Soil Spring Forces (Shaded Area)

(b)

Fig. 5.1.4-1

Output Selection for Dynamic Analysis



Elements Selected for Pad Stresses
(Shaded Area)

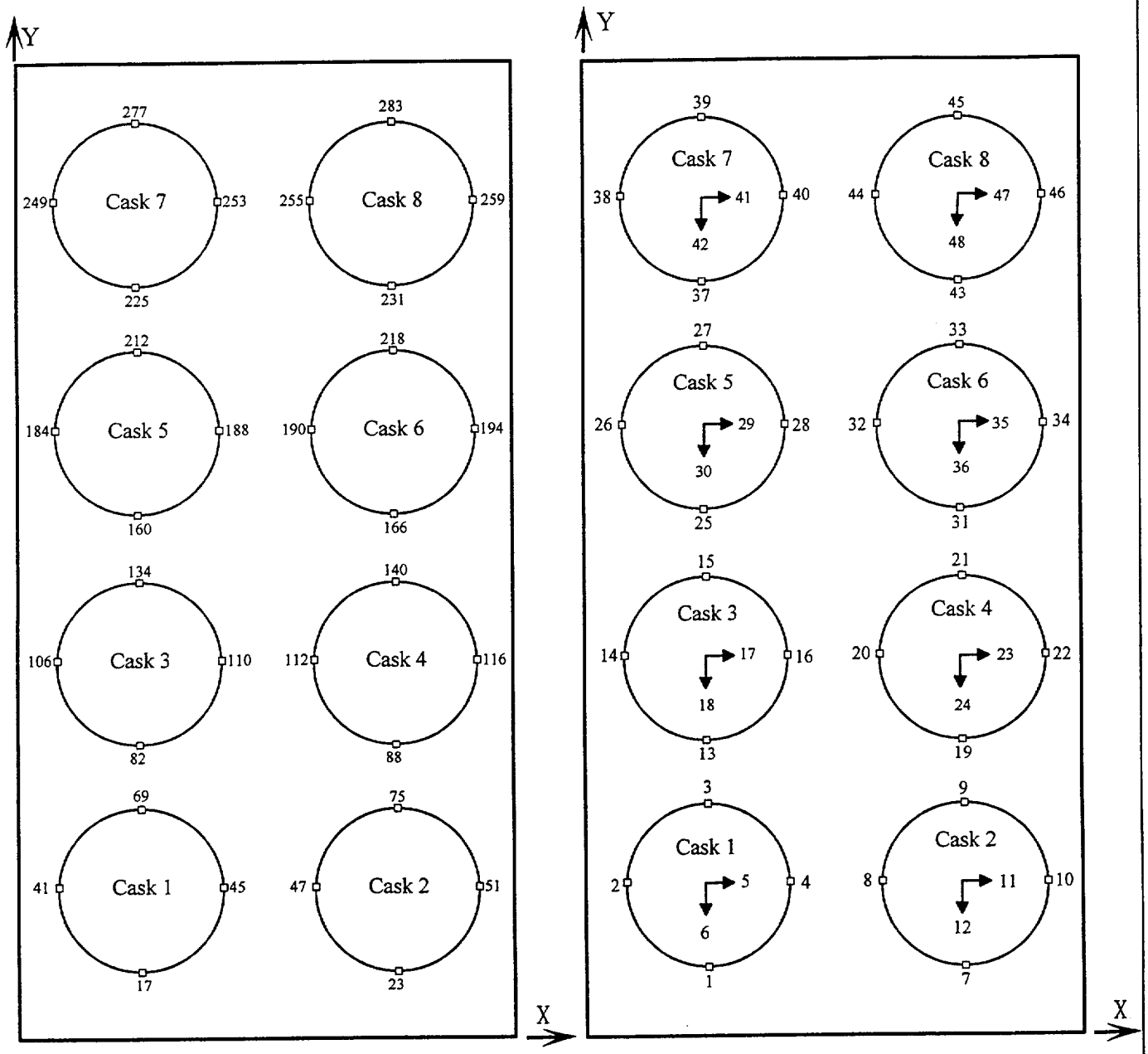
(a)

Elements Selected for Pad Stresses
8-Cask, LB, BE, and UB Soil Conditions
with Casks Flipped
(Shaded Area)

(b)

Fig. 5.1.4-2

Transformed Nodal Force Input Time History Numbers Assignment for 8-Cask Cases for LB, BE, and UB Soil Conditions



Node Numbers Where Input Time Histories are Applied

Transformed Input Time Histories Numbers

Fig. 5.1.4-3

5.1.5 INPUT AND OUTPUT LISTING OF CECSAP STATIC AND DYNAMIC ANALYSES

Complete input file listings of CECSAP are provided in Attachment A-2 for static as well as dynamic analysis. The CECSAP results are given in Attachment A-3. For analyses where the output is requested for each node and element, analysis results are documented in Attachment A-4. The dynamic response time histories (displacements, stresses, moments, spring forces) for all loads and soil conditions are given in Attachment A-5.

The file names used for the CECSAP analyses are as follows:

Analysis Type	Soil Type	Input File Name	Output File Name
Static (Dead Load)	Lower-Bound	DLLB.I	DLLB.OUT
	Upper-Bound	DLUB.I	DLUB.OUT
Static (Live Load)	Lower-Bound	LLLB.I	LLLB.OUT
	Upper-Bound	LLUB.I	LLUB.OUT
Dynamic (2-Cask)	Lower-Bound	DYN2LB.I	DYN2LB.OUT
(4-Cask)		DYN4LB.I	DYN4LB.OUT
(8-Cask)		DYN8LB.I	DYN8LB.OUT
(8-Cask with Flipped T/H)		FTH8LB.I	FTH8LB.OUT
Dynamic (2-Cask)	Best-Estimate	DYN2BE.I	DYN2BE.OUT
(4-Cask)		DYN4BE.I	DYN4BE.OUT
(8-Cask)		DYN8BE.I	DYN8BE.OUT
(8-Cask with Flipped T/H)		FTH8BE.I	FTH8BE.OUT
Dynamic (2-Cask)	Upper-Bound	DYN2UB.I	DYN2UB.OUT
(4-Cask)		DYN4UB.I	DYN4UB.OUT
(8-Cask)		DYN8UB.I	DYN8UB.OUT
(8-Cask with Flipped T/H)		FTH8UB.I	FTH8UB.OUT

Note: The output files provided in the Attachments are partial listings. The partial output listings (without tabulated input) have a .OT extension on the output file name instead of a .OUT extension.

5.1.6 Static and Dynamic Analysis Results

Calculation of shear:

The shear force is calculated by dividing the change in moment between two adjacent plate elements by the distance between elements. That is,

Shear force, $V = (M_2 - M_1)/L$

Where M_2 = moment at centroid of element 2.

M_1 = moment at centroid of element 1.

L = distance between the centroids of elements 1 and 2.

Static Analysis Results

Results for the static analyses are shown on the following table. Note that the moments and shears for the dead load case are essentially zero since the pad is poured in place.

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED arm	DATE 3/16/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 42

Summary of Forces - Static Load Cases

Case				Bending about X Vyz (k/ft)	Bending about X Myy (k-ft/ft)	Bending about Y Vxz (k/ft)	Bending about Y Mxx (k-ft/ft)	Reference
(D/LB)	S1	0	Max	0.0	0.0	0.0	0.0	
			Min	0.0	0.0	0.0	0.0	
(D/UB)	S2	0	Max	0.0	0.0	0.0	0.0	
			Min	0.0	0.0	0.0	0.0	
(L/LB)	S3	2 casks	Max	-8.2	80.5	-2.7	5.1	LLLB.MXS (Shear)
			Min		-18.0		-10.2	LLLB.MXM (Moment)
		4 casks	Max	-10.0	23.1	-3.4	5.3	
			Min		-63.7		-12.0	
		8 casks	Max	-5.9	-*	3.5	4.1	
			Min		-44.3		-10.7	
		7+OLT	Max	-10.7	42.7	5.2	28.4	
			Min		-44.3		-15.4	
(L/UB)	S4	2 casks	Max	-6.7	47.2	-2.5	3.5	LLUB.MXS (Shear)
			Min		-23.0		-8.5	LLUB.MXM (Moment)
		4 casks	Max	-9.4	26.0	-3.4	4.3	
			Min		-51.4		-11.6	
		8 casks	Max	-5.3	-*	3.5	2.9	
			Min		-26.4		-9.9	
		7+OLT	Max	10.7	37.3	4.5	25.9	
			Min		-39.4		-13.0	
Envelope of all cases			Max	10.7	80.5	5.2	28.4	
			Min	-10.7	-63.7	-3.4	-15.4	

Notes:
*Values are all negative.
Negative moment means tension on bottom surface.
Positive moment means tension on top surface.
X = transverse axis.
Y = longitudinal axis.

CECSAP OUTPUT FILE NAME=111b.out
**** MAXIMUM **** BENDING VALUES

LOAD CASE NO.= 1 (2 Casks) CASE S3

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
150	5.05	133	80.49

LOAD CASE NO.= 2 (4 Casks)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
258	5.25	73	23.05

LOAD CASE NO.= 3 (8 Casks)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
6	4.07	0	0.00

LOAD CASE NO.= 4 (7 Casks + OLT)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
260	28.35	133	42.70

**** MINIMUM **** BENDING VALUES

LOAD CASE NO.= 1 (2 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
256	-10.16	229	-17.95

LOAD CASE NO.= 2 (4 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
196	-11.98	169	-63.69

LOAD CASE NO.= 3 (8 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
124	-10.69	97	-44.31

LOAD CASE NO.= 4 (7 Casks + OLT)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
10	-15.43	205	-44.28

CEC JOB NO. 1101-000
BY DH DATE 3/12/01
CHECK [illegible] DATE 3/12/01
CALC. NO. G(P0/7)-2 REV. NO. 3
SHEET NO. 43

```
CECSAP OUTPUT FILE NAME=lllb.out
MAXMIMUM LIVE LOAD SHEAR..FOR MXX

 LOAD CASE NO.= 1                          (2 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   255   254    -2.699

 LOAD CASE NO.= 2                          (4 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   195   194    -3.425

 LOAD CASE NO.= 3                          (8 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   125   124     3.486

 LOAD CASE NO.= 4                          (7 Casks + OLT)
 ELEM1 ELEM2 MAX.SHEAR
   259   258     5.157

MAXMIMUM LIVE LOAD SHEAR..FOR MYY

 LOAD CASE NO.= 1                          (2 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   217   205    -8.217

 LOAD CASE NO.= 2                          (4 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   135   123    -9.982

 LOAD CASE NO.= 3                          (8 Casks)
 ELEM1 ELEM2 MAX.SHEAR
    25    13    -5.949

 LOAD CASE NO.= 4                          (7 Casks + OLT)
 ELEM1 ELEM2 MAX.SHEAR
   193   181   -10.678
```

CASE 53

CEC JOB NO. 1101-000
BY DH DATE 3/12/01
CHECK aym DATE 3/12/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 44

CECSAP OUTPUT FILE NAME=llub.out
**** MAXIMUM **** BENDING VALUES

LOAD CASE NO.= 1 (2 Casks)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
162	3.46	145	47.24

CASE 54

LOAD CASE NO.= 2 (4 Casks)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
258	4.33	73	26.02

LOAD CASE NO.= 3 (8 Casks)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
6	2.89	0	0.00

LOAD CASE NO.= 4 (7 Casks + OLT)

ELEM.NO.	MXMAX	ELEM.NO.	MYMAX
260	25.91	133	37.31

**** MINIMUM **** BENDING VALUES

LOAD CASE NO.= 1 (2 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
234	-8.49	229	-22.99

LOAD CASE NO.= 2 (4 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
196	-11.55	169	-51.40

LOAD CASE NO.= 3 (8 Casks)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
123	-9.89	85	-26.40

LOAD CASE NO.= 4 (7 Casks + OLT)

ELEM.NO.	MXMIN	ELEM.NO.	MYMIN
70	-13.04	205	-39.37

CEC JOB NO. 1101-000
BY DH DATE 3/12/01
CHECK AMM DATE 3/12/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 45

```
CECSAP OUTPUT FILE NAME=llub.out
MAXMIMUM LIVE LOAD SHEAR..FOR MXX

 LOAD CASE NO.= 1                        (2 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   255   254    -2.511

 LOAD CASE NO.= 2                        (4 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   195   194    -3.383

 LOAD CASE NO.= 3                        (8 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   125   124     3.524

 LOAD CASE NO.= 4                        (7 Casks + OLT)
 ELEM1 ELEM2 MAX.SHEAR
   259   258     4.475

MAXMIMUM LIVE LOAD SHEAR..FOR MYY

 LOAD CASE NO.= 1                        (2 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   217   205    -6.725

 LOAD CASE NO.= 2                        (4 Casks)
 ELEM1 ELEM2 MAX.SHEAR
   135   123    -9.353

 LOAD CASE NO.= 3                        (8 Casks)
 ELEM1 ELEM2 MAX.SHEAR
    25    13    -5.280

 LOAD CASE NO.= 4                        (7 Casks + OLT)
 ELEM1 ELEM2 MAX.SHEAR
   217   205    10.732
```

CASE 54

CEC JOB NO. 1101-000
BY DH DATE 3/12/01
CHECK AMM DATE 3/12/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 46

5.1.6 Static and Dynamic Analysis Results (continued)

Dynamic Analysis Results

Results for the dynamic are summarized on the following table.

The procedures for calculating the dynamic analysis results are given on the following pages.

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/27/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED CWM	DATE	3/27/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	48

Dynamic Analysis Results - Summary by Number of Casks
Summary of Maximum Shears and Moments (calculated time step by time step)

		Bending about X				Bending about Y			
No. of Casks		Case, section	Vyz (k)	Case, section	Myy (k-ft)	Case, section(set)	Vxz (k)	Case, section(set)	Mxx (k-ft)
2	Maximum	lb, sec 7	1006.9	lb, sec 2	2967.9	ub, sec 6(2)	473.2	be, sec 4(2)	1760.0
	Minimum	lb, sec 5	-1135.7	lb, sec 7	-5540.3	lb, sec 6(2)	-608.2	lb, sec 4(2)	-2283.8
4	Maximum	be, sec 2	1205.4	lb, sec 8	2109.2	be, sec 4(2)	741.2	be, sec 7(2)	2369.6
	Minimum	be, sec 5	-1038.4	be, sec 7	-5400.2	be, sec 6(2)	-934.1	be, sec 8(2)	-4115.5
8	Maximum	be, sec 2	1142.6	lbfth, sec 8	3383.2	befth,sec4(2)	717.2	lbfth,sec6(2)	2569.5
	Minimum	befth, sec 4	-1219.7	be, sec 7	-4306.8	befth,sec1(1)	-715.9	be, sec8(1)	-3086.6
No. of Casks		Length of Section (ft)	Vyz (k/ft)	Length of Section (ft)	Myy (k-ft/ft)	Length of Section (ft)	Vxz (k/ft)	Length of Section (ft)	Mxx (k-ft/ft)
2	Maximum	30	33.6	30	98.9	19.98	23.7	19.98	88.1
	Minimum	30	-37.9	30	-184.7	19.98	-30.4	19.98	-114.3
4	Maximum	30	40.2	30	70.3	19.98	37.1	19.98	118.6
	Minimum	30	-34.6	30	-180.0	19.98	-46.8	19.98	-206.0
8	Maximum	30	38.1	30	112.8	19.98	35.9	19.98	128.6
	Minimum	30	-40.7	30	-143.6	18.48	-38.7	18.48	-167.0

Notes:

Negative moment means tension on the bottom surface.
Positive moment means tension on the top surface.
X = transverse axis, Y = longitudinal axis.

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/20/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED aum	DATE 3/20/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 49

Dynamic Analysis Results - Summary of Maximum Shears and Moments (calculated time step by time step)

Load Case		Bending about X				Bending about Y			
		Filename	Vyz (k)	Filename	Myy (k-ft)	Filename	Vxz (k)	Filename	Mxx (k-ft)
2l	Maximum	2lshy.tot	1006.93	2lmyy.tot	2967.9	2lshx1,2.tot	445.76	2lmxx1,2.tot	1403.3
	Minimum		-1135.69		-5540.3		-608.2		-2283.8
4l	Maximum	4lshy.tot	742.42	4lmyy.tot	2109.2	4lshx1,2.tot	630.43	4lmxx1,2.tot	2341.5
	Minimum		-593.39		-3453.6		-466.82		-2189.4
8l	Maximum	8lshy.tot	797.27	8lmyy.tot	1819.6	8lshx1,2.tot	458.93	8lmxx1,2.tot	2030.8
	Minimum		-736.43		-4075.8		-457.85		-2504.7
8lfth	Maximum	8lfth-sy.tot	736.61	8lfthmyy.tot	3383.2	8lfth-sx1,2.tot	667.1	8lfthmxx1,2.tot	2569.5
	Minimum		-768.69		-2156		-615.33		-2781
2b	Maximum	2bshy.tot	932.02	2bmyy.tot	2501.3	2bshx1,2.tot	448.09	2bmxx1,2.tot	1760
	Minimum		-995.83		-4909.1		-506.01		-1620.2
4b	Maximum	4bshy.tot	1205.35	4bmyy.tot	1901.2	4bshx1,2.tot	741.16	4bmxx1,2.tot	2369.6
	Minimum		-1038.4		-5400.2		-934.09		-4115.5
8b	Maximum	8bshy.tot	1142.57	8bmyy.tot	2685.3	8bshx1,2.tot	611.33	8bmxx1,2.tot	1830.4
	Minimum		-946.11		-4306.8		-695.43		-3086.6
8bfth	Maximum	8bfth-sy.tot	863.63	8bfthmyy.tot	2585.2	8bfth-sx1,2.tot	717.2	8bfthmxx1,2.tc	2226.8
	Minimum		-1219.69		-3250		-715.86		-2499.5
2u	Maximum	2ushy.tot	697.7	2umyy.tot	2226.5	2ushx1,2.tot	473.17	2umxx1,2.tot	1337.5
	Minimum		-623.59		-3072.5		-509.97		-1579
4u	Maximum	4ushy.tot	783.49	4umyy.tot	1854.2	4ushx1,2.tot	416.03	4umxx1,2.tot	1646.5
	Minimum		-616.37		-3123.6		-506.08		-1749.2
8u	Maximum	8ushy.tot	870.13	8umyy.tot	1898.3	8ushx1,2.tot	658.49	8umxx1,2.tot	1771.4
	Minimum		-841.96		-3451.4		-490		-1762.7
8ufth	Maximum	8ufth-sy.tot	630.28	8ufthmyy.tot	2310.5	8ufth-sx1,2.tot	593.63	8ufthmxx1,2.tc	1931.7
	Minimum		-790.3		-2022.7		-499.4		-1806.7
		Maximum	1205.35		3383.2		741.16		2569.5
		Minimum	-1219.69		-5540.3		-934.09		-4115.5
		Length of section (ft):	30		30		19.98		19.98
		Maximum Shear or Moment/unit length :	40.2		112.8		37.1		128.6
		Minimum Shear or Moment/unit length :	-40.7		-184.7		-46.8		-206.0
			k/ft		k-ft/ft		k/ft		k-ft/ft

Notes:

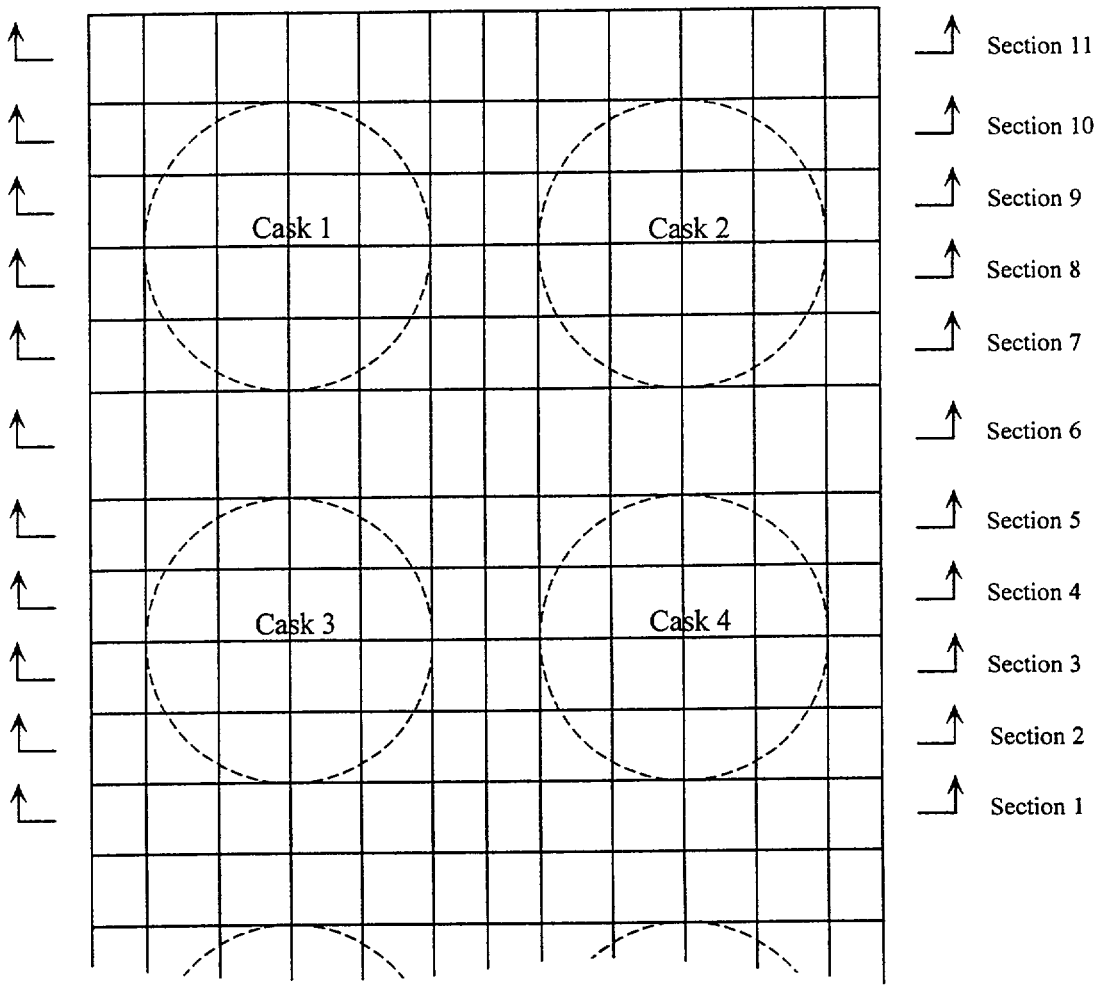
Negative moment means tension on the bottom surface.

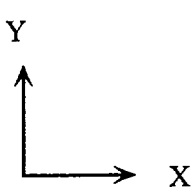
Positive moment means tension on the top surface.

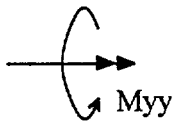
X = transverse axis, Y = longitudinal axis.

Moments about the X axis, Myy, and Shear, Vyz

The moments about the X axis, Myy, were obtained at the sections shown in the figure below.







The maximum moment about the X axis, Myy, was calculated as follows:

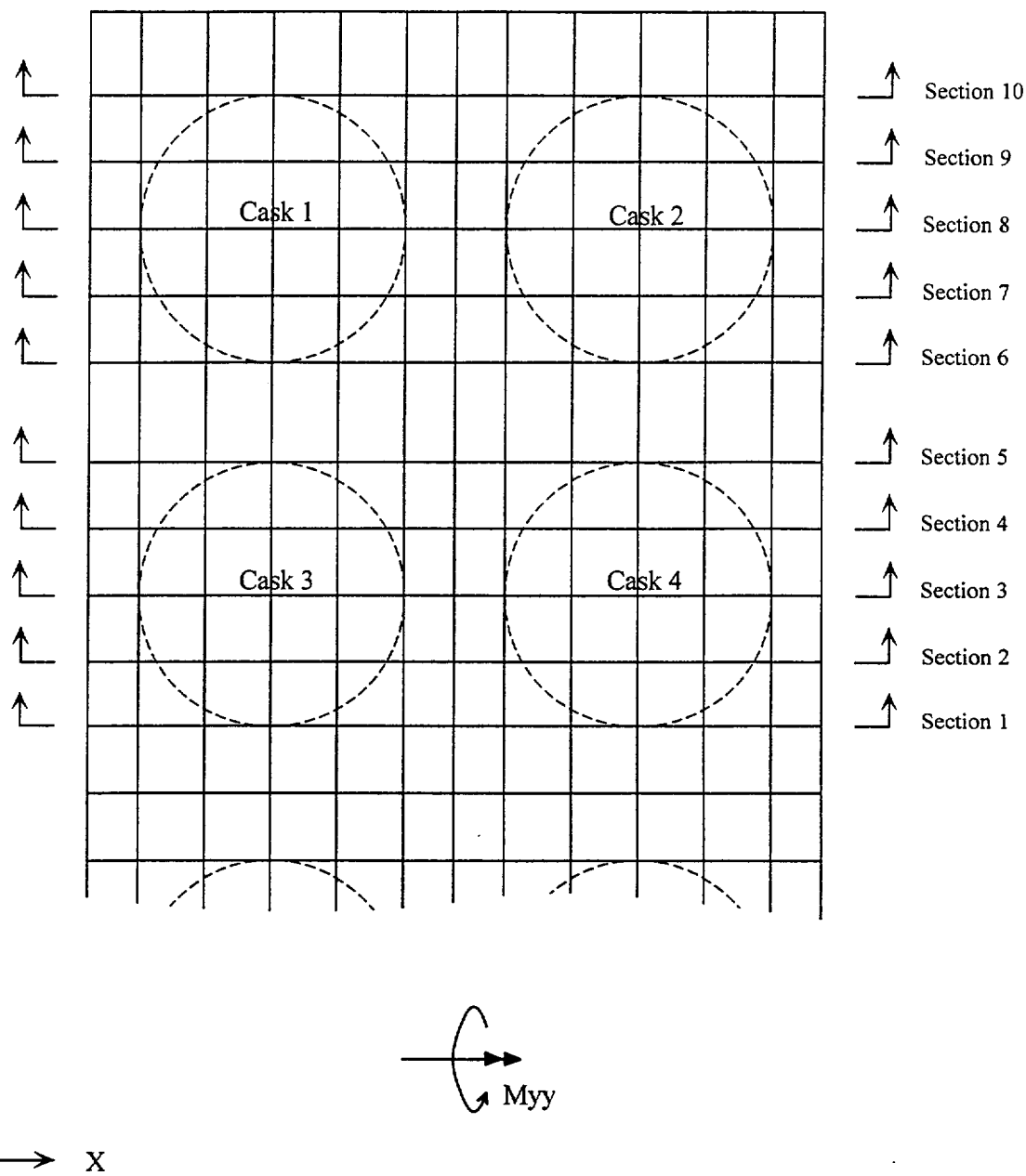
For each section:

Calculate the total moment across the section: $M_{yy}^{tot}(t) = \sum_{k=1}^{12}(M_{yyk}(t) \times L_k)$ (k-ft)

Calculate the maximum moment: $M_{yy}^{\max} = \max(M_{yy}^{tot}(t))$ (k-ft)

Calculate the maximum moment per unit width: $\overline{M}_{yy}^{\max} = M_{yy}^{\max} / \sum_{k=1}^{12} L_k$ (k-ft/ft)

The shears, Vyz, were calculated at the sections shown in the figure below.



The maximum Vyz shear was calculated as follows:

For each section:

Calculate shear between elements i and j at time t: $V_{yzk}(t) = (M_{yyj}(t) - M_{yyi}(t)) / L_{ij}$ (k/ft)

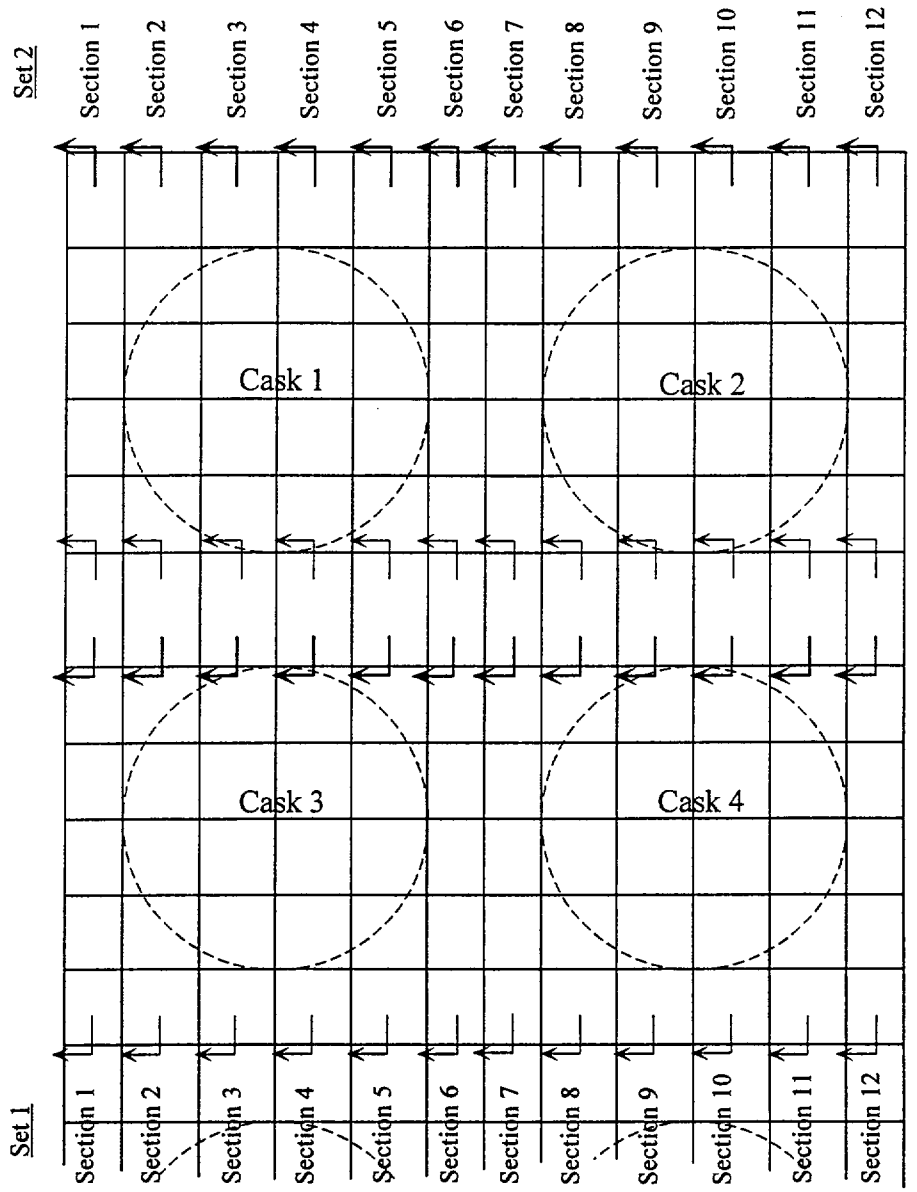
Calculate the total shear across the section: $V_{yz}^{tot}(t) = \sum_{k=1}^{12} (V_{yzk}(t) \times L_k)$ (k)

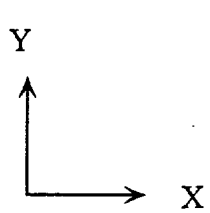
Calculate the maximum shear: $V_{yz}^{\max} = \max(V_{yz}^{tot}(t))$ (k)

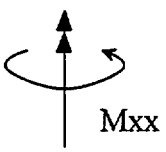
Calculate the maximum shear per unit width: $\overline{V}_{yz}^{\max} = V_{yz}^{\max} / \sum_{k=1}^{12} L_k$ (k/ft)

Moments about the Y axis, Mxx, and Shear, Vxz

The moments about the Y axis, Mxx, were obtained at the sections shown in the figure below.







The maximum moment about the Y axis, Mxx, was calculated as follows:

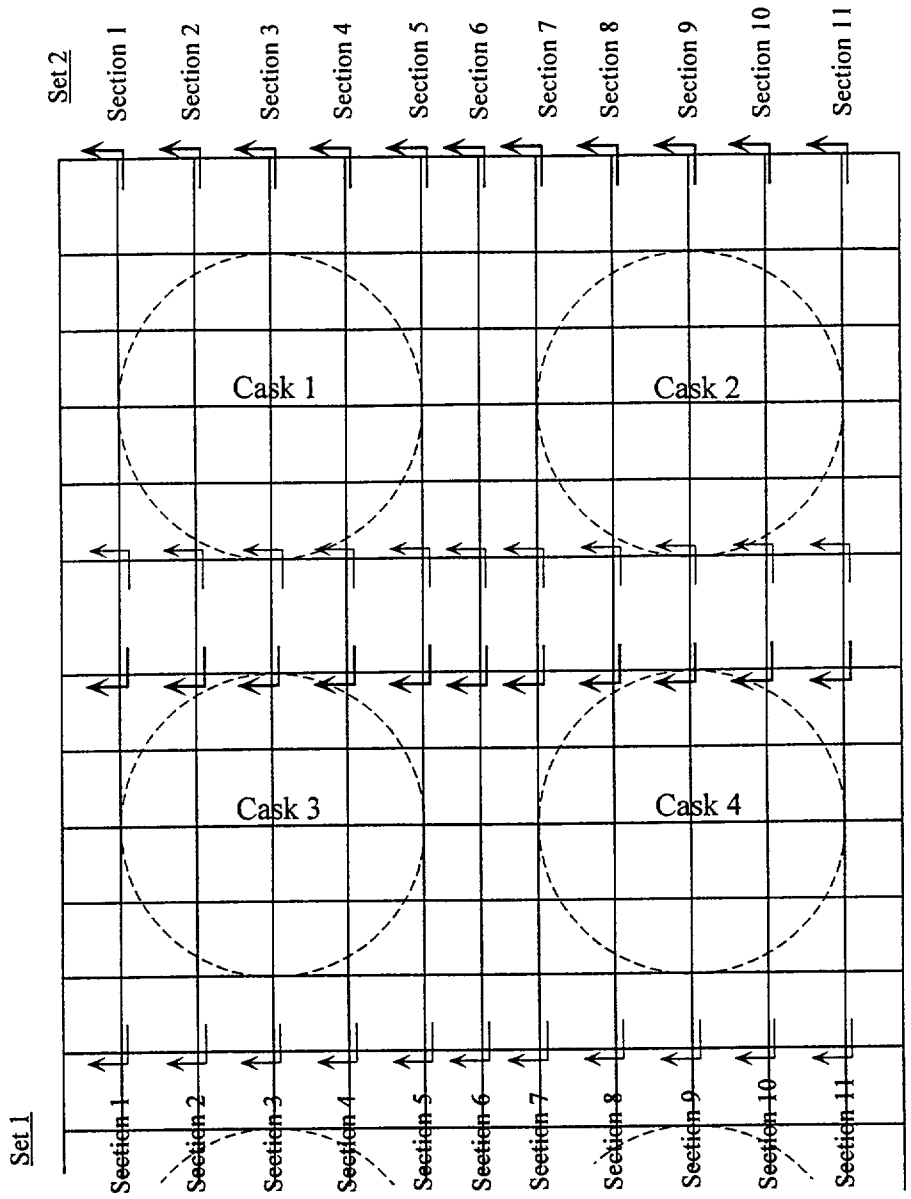
For each sections:

Calculate the total moment across the section: $M_{xx}^{tot}(t) = \sum_{k=1}^{6} (M_{xxk}(t) \times L_k)$ (k-ft)

Calculate the maximum moment: $M_{xx}^{\max} = \max(M_{xx}^{tot}(t))$ (k-ft)

Calculate the maximum moment per unit width: $\overline{M}_{xx}^{\max} = M_{xx}^{\max} / \sum_{k=1}^{6} L_k$ (k-ft/ft)

The shears, Vxz, were calculated at the sections shown in the figure below.



The maximum Vxz shear was calculated as follows:

For each section:

Calculate shear between elements i and j at time t: $V_{xzk}(t) = (M_{xxj}(t) - M_{xxi}(t)) / L_{ij}$ (k/ft)

Calculate the total shear across the section: $V_{xz}^{tot}(t) = \sum_{k=1}^{6} (V_{xzk}(t) \times L_k)$ (k)

Calculate the maximum shear: $V_{xz}^{\max} = \max(V_{xz}^{tot}(t))$ (k)

Calculate the maximum shear per unit width: $\overline{V}_{xz}^{\max} = V_{xz}^{\max} / \sum_{k=1}^{12} L_k$ (k/ft)

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	-1.4	-10.4	-39.4	-33.2	7.6	23.7	23.7	7.6	-33.2	-39.4	-10.4	-1.4
0.005	-5.0	-25.5	-59.0	-50.6	-4.3	21.0	21.0	-4.3	-50.6	-59.0	-25.5	-5.0
0.010	-1.6	0.2	18.2	4.0	-40.5	-59.7	-59.7	-40.5	4.0	18.2	0.2	-1.6
0.015	-3.8	4.3	33.6	17.8	-37.6	-65.9	-65.9	-37.7	17.8	33.6	4.3	-3.8
0.020	-11.1	-23.5	-5.0	3.1	-9.3	-7.7	-7.7	-9.3	3.1	-5.0	-23.5	-11.1
0.025	0.8	7.7	11.5	9.4	1.8	-5.9	-5.9	1.7	9.3	11.5	7.6	0.8
0.030	1.7	3.8	-4.7	-5.3	6.9	11.5	11.5	6.8	-5.3	-4.8	3.8	1.7
0.035	-1.0	-9.2	-10.2	-3.4	4.3	12.6	12.6	4.2	-3.5	-10.3	-9.2	-1.0
0.040	7.5	20.8	24.9	13.8	-3.8	-15.0	-15.0	-3.8	13.8	24.8	20.8	7.5
0.045	2.0	6.4	11.6	10.9	5.8	3.6	3.5	5.8	10.8	11.6	6.4	1.9
0.050	-1.6	-5.6	-5.3	3.2	14.7	21.6	21.6	14.6	3.1	-5.4	-5.7	-1.6
0.055	0.5	4.2	9.1	9.5	7.0	5.8	5.7	7.0	9.4	9.0	4.1	0.5
0.060	0.3	2.7	6.3	6.9	3.7	1.0	1.0	3.7	6.9	6.3	2.7	0.3
0.065	0.1	-0.9	-1.7	-0.4	3.2	6.0	6.0	3.1	-0.4	-1.8	-0.9	0.1
0.070	0.5	1.6	3.0	2.7	0.8	-0.4	-0.5	0.7	2.6	2.8	1.6	0.5
0.075	0.6	1.9	2.7	1.7	-0.4	-1.5	-1.6	-0.5	1.6	2.6	1.8	0.5
0.080	-0.8	-2.2	-2.6	-1.9	-0.9	-0.2	-0.2	-1.0	-1.9	-2.6	-2.3	-0.8
0.085	-0.9	-2.2	-2.9	-3.1	-3.1	-3.2	-3.2	-3.1	-3.1	-2.9	-2.2	-0.9
.												
.												
.												
19.900	5.2	14.4	21.5	23.8	19.9	10.3	-0.3	-11.6	-19.1	-18.0	-10.1	-3.1
19.905	5.7	14.8	19.5	21.8	20.5	10.6	-1.5	-15.4	-26.0	-24.5	-13.1	-3.9
19.910	5.7	18.8	40.6	42.3	21.6	4.3	-10.2	-25.2	-37.5	-33.8	-16.8	-4.8
19.915	7.5	30.2	66.3	69.6	36.1	4.8	-19.3	-41.2	-57.1	-49.4	-23.8	-6.4
19.920	8.7	28.4	44.5	52.1	45.7	21.4	-6.8	-38.1	-62.2	-58.2	-31.4	-9.1
19.925	8.8	18.2	14.1	17.4	26.9	20.1	4.7	-18.1	-40.4	-45.0	-29.7	-10.6
19.930	10.6	22.1	16.9	14.0	16.7	7.5	-4.8	-19.6	-33.8	-36.3	-25.0	-10.0
19.935	9.4	22.7	25.0	26.6	25.9	9.2	-11.7	-35.2	-52.7	-49.1	-27.8	-9.1
19.940	6.5	16.1	18.3	22.0	23.4	8.7	-11.2	-34.5	-52.9	-48.7	-25.5	-7.3
19.945	5.3	11.8	11.1	12.3	14.2	2.4	-12.8	-28.6	-37.8	-33.4	-18.1	-6.0
19.950	8.3	21.2	30.4	33.1	25.6	3.0	-20.8	-41.9	-47.9	-40.1	-23.8	-8.5
19.955	12.5	36.7	55.6	61.0	47.0	12.5	-23.1	-57.5	-75.9	-66.3	-36.9	-11.6
19.960	8.5	25.0	37.0	43.9	40.3	17.8	-10.1	-42.0	-65.4	-61.7	-35.3	-10.7
19.965	1.3	0.3	-4.0	-2.7	3.2	3.6	0.4	-4.5	-8.6	-11.0	-9.8	-4.3
19.970	-1.4	-8.0	-18.5	-23.4	-18.0	-8.5	2.4	14.8	22.8	19.4	8.3	0.5
MAXIMUM	87.2	311.3	451.5	479.1	543.3	573.2	602.7	670.2	642.7	468.7	233.9	75.8
@TIME	5.260	4.655	4.655	5.255	5.770	5.265	12.560	12.560	12.560	12.560	8.225	5.680
MINIMUM	-52.0	-453.2	-1367.9	-1447.7	-942.0	-871.8	-621.3	-639.7	-946.0	-1061.8	-436.0	-74.1
@TIME	12.580	4.645	4.645	4.645	4.650	4.650	4.655	4.655	5.265	5.265	5.265	5.265

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK Quinn DATE 3/16/01
CALC. NO. S(P017)-2 REV. NO. 3
SHEET NO. 58

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	12.6	-7.4	-56.0	-48.2	16.1	48.8	48.8	16.1	-48.2	-56.0	-7.4	12.6
0.005	0.0	-17.8	-22.2	-17.2	-6.9	12.0	12.0	-6.9	-17.2	-22.2	-17.8	0.0
0.010	8.5	10.0	-9.3	-20.1	-16.9	-25.7	-25.7	-16.9	-20.1	-9.3	10.0	8.5
0.015	11.9	-52.1	-185.7	-156.3	35.4	139.0	138.9	35.4	-156.3	-185.7	-52.1	11.9
0.020	-14.4	-47.9	-41.2	-17.1	2.4	34.0	34.0	2.3	-17.2	-41.3	-47.9	-14.4
0.025	19.0	93.5	168.0	113.2	-43.4	-144.5	-144.6	-43.6	113.0	167.9	93.4	19.0
0.030	5.2	2.8	-16.8	-19.0	6.3	24.0	23.9	6.2	-19.1	-16.9	2.7	5.2
0.035	-13.6	-50.1	-66.0	-33.6	19.5	55.3	55.2	19.3	-33.7	-66.1	-50.1	-13.5
0.040	8.5	35.3	51.0	28.6	-13.5	-42.0	-42.1	-13.6	28.5	50.9	35.3	8.5
0.045	-1.1	-0.4	4.6	7.2	5.6	4.9	4.7	5.4	7.1	4.5	-0.4	-1.1
0.050	-4.4	-18.1	-25.8	-10.9	17.0	34.5	34.3	16.7	-11.2	-26.0	-18.1	-4.4
0.055	2.7	11.1	17.9	12.4	0.2	-7.1	-7.2	0.0	12.2	17.7	11.0	2.7
0.060	1.3	4.7	8.2	7.0	0.8	-4.2	-4.3	0.7	6.9	8.2	4.8	1.3
0.065	-1.8	-7.4	-11.3	-7.3	3.2	11.2	11.0	2.9	-7.5	-11.4	-7.4	-1.7
0.070	0.5	1.7	2.7	1.5	-2.3	-5.3	-5.5	-2.7	1.0	2.4	1.6	0.5
0.075	1.0	3.7	5.4	2.4	-2.8	-5.5	-5.7	-3.1	2.0	5.1	3.6	1.1
0.080	-0.3	-2.2	-3.3	-1.3	2.1	4.4	4.2	1.9	-1.4	-3.4	-2.2	-0.2
0.085	0.4	1.0	1.9	2.0	1.5	1.6	1.6	1.4	1.9	1.9	1.1	0.5
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19.900	-5.5	9.7	43.5	57.6	58.2	26.4	-36.1	-65.8	-59.6	-42.7	-9.7	6.0
19.905	-7.9	8.4	46.9	63.4	65.3	28.8	-43.2	-76.5	-67.6	-47.3	-9.2	7.7
19.910	-10.8	4.6	45.6	65.6	73.1	34.7	-46.3	-83.7	-72.8	-50.3	-8.1	9.9
19.915	-13.2	0.0	41.8	65.2	79.9	43.1	-43.7	-83.3	-71.0	-48.4	-5.1	12.2
19.920	-13.7	2.3	48.8	72.6	84.7	45.2	-44.0	-82.1	-66.3	-42.9	-0.2	14.4
19.925	-15.2	4.8	58.8	84.5	91.8	44.5	-51.1	-91.5	-72.9	-44.6	2.2	16.6
19.930	-18.4	-1.4	54.1	83.5	93.7	45.2	-54.7	-99.6	-82.3	-50.7	1.8	18.2
19.935	-19.9	-7.4	42.7	69.8	82.3	39.0	-55.3	-95.1	-74.6	-43.9	5.4	19.2
19.940	-18.9	-9.3	34.4	57.3	67.6	29.3	-52.6	-83.9	-60.2	-31.2	9.6	18.5
19.945	-27.7	-12.0	53.9	83.5	100.5	47.1	-80.3	-120.3	-74.1	-37.6	13.6	25.8
19.950	-33.8	8.4	134.9	181.5	169.5	62.0	-135.9	-202.2	-125.1	-61.0	8.7	30.2
19.955	-20.9	35.1	162.2	210.8	187.1	70.0	-114.4	-197.9	-160.3	-96.3	-7.8	25.3
19.960	-15.8	-0.3	54.1	93.2	113.7	73.5	-17.8	-79.5	-90.8	-66.9	-7.7	16.6
19.965	-19.9	-41.1	-34.3	-18.0	11.0	27.1	17.7	25.3	50.1	49.8	37.1	18.9
19.970	-13.0	-32.6	-42.6	-43.0	-25.2	-3.6	14.4	50.0	86.6	88.3	58.8	20.1
MAXIMUM	79.0	402.2	1192.9	1352.0	1403.3	1316.6	1325.6	1295.7	1162.9	953.7	536.6	157.7
@TIME	8.265	4.655	5.255	5.255	5.765	5.765	12.560	12.560	8.225	8.225	4.670	5.275
MINIMUM	-336.4	-892.9	-2024.0	-2283.8	-1357.1	-1222.0	-1601.7	-1869.0	-1829.0	-1992.4	-762.1	-208.7
@TIME	4.645	4.645	4.645	4.645	4.650	16.600	12.495	12.495	5.265	5.265	5.265	5.670

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK BMM DATE 3/16/01
CALC. NO. 3(P0172-2) REV. NO. 3
SHEET NO. 59

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	8.4	17.7	27.9	28.9	0.9	-160.5	-166.5	118.2	186.0	116.2	66.2	
0.005	51.9	63.5	47.5	-18.3	-137.8	-325.9	-280.7	50.7	256.2	339.5	193.5	
0.010	74.0	13.9	-99.6	-233.8	-320.3	-179.4	-36.6	17.4	60.7	-58.6	-74.1	
0.015	-65.3	-202.9	-328.6	-373.1	-294.4	67.3	342.6	374.4	108.8	-444.9	-343.9	
0.020	-293.4	-384.5	-398.7	-309.5	-116.1	343.8	625.7	469.0	308.2	153.1	28.9	
0.025	-401.0	-375.0	-258.0	-56.0	193.1	446.5	559.6	494.2	450.2	440.2	210.2	
0.030	-307.5	-169.6	24.7	213.7	332.6	319.0	329.2	397.3	323.7	171.4	51.3	
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5.230	-248.9	-211.8	-115.3	58.9	324.8	882.4	1291.8	1314.0	993.5	326.5	-3.3	
5.235	-286.8	-223.6	-84.7	139.1	442.3	968.7	1256.4	1095.6	788.0	335.8	49.7	
5.240	-265.5	-145.6	50.8	307.8	598.4	992.2	1074.2	705.2	415.0	235.2	69.5	
5.245	-149.9	25.3	254.5	505.4	744.5	960.7	746.6	-6.6	-245.9	75.8	101.1	
5.250	37.1	252.2	503.3	746.7	928.7	889.8	231.7	-1075.5	-1267.7	-322.2	30.0	
5.255	281.7	550.6	840.5	1079.3	1179.2	792.5	-461.1	-2543.9	-2732.5	-1017.0	-165.8	
5.260	698.9	1152.8	1626.7	1911.7	1666.5	-867.4	-2884.5	-2986.5	-2630.3	-1321.5	-339.1	
5.265	1686.4	2347.5	2694.2	2256.1	677.5	-3706.2	-5540.3	-2761.2	-1018.7	-333.4	-27.8	
5.270	2907.6	2967.9	2171.8	465.3	-1751.9	-4432.9	-5032.3	-2978.2	-1157.0	-52.4	182.3	
5.275	2680.5	1674.8	181.5	-1324.2	-2516.4	-3712.6	-3783.5	-2556.8	-1737.3	-1088.9	-330.7	
5.280	1118.4	117.5	-793.5	-1530.6	-2234.5	-3283.1	-3382.5	-2152.8	-1247.4	-686.3	-192.5	
5.285	171.6	-355.5	-916.8	-1538.9	-2158.5	-2833.6	-2701.1	-1606.2	-643.8	35.0	166.4	
5.290	-139.8	-627.0	-1136.2	-1567.7	-1900.2	-2224.3	-1911.3	-1008.8	-438.8	-130.0	9.3	
5.295	-461.5	-834.4	-1125.7	-1322.2	-1462.1	-1699.3	-1565.2	-999.9	-546.8	-134.9	39.4	
5.300	-578.1	-723.8	-835.2	-939.4	-1094.6	-1517.6	-1552.6	-970.0	-479.1	-87.1	54.2	
5.305	-491.3	-550.6	-638.9	-807.4	-1046.7	-1344.4	-1319.5	-887.3	-489.8	-144.6	21.7	
5.310	-369.4	-554.4	-743.9	-906.1	-1016.7	-1093.8	-1015.7	-749.2	-471.3	-155.8	17.0	
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5.535	-333.9	-500.0	-717.2	-978.7	-1282.1	-1773.3	-1624.8	-665.1	-108.5	77.6	94.4	
5.540	-336.9	-507.4	-724.7	-978.7	-1263.3	-1702.4	-1593.6	-806.9	-274.6	19.8	84.8	
5.545	-359.7	-548.3	-782.2	-1033.4	-1259.7	-1369.8	-1225.5	-842.5	-500.5	-366.8	-173.3	
5.550	-465.4	-690.4	-917.7	-1070.7	-1076.8	-712.7	-484.1	-670.2	-712.3	-675.8	-345.1	
5.555	-661.9	-826.5	-888.8	-794.9	-560.5	-126.6	41.8	-234.1	-395.5	-495.2	-295.0	
5.560	-726.0	-712.3	-592.1	-398.3	-169.3	249.4	580.4	709.8	468.9	-366.7	-431.9	
5.565	-586.0	-511.8	-399.8	-234.3	43.2	773.6	1438.3	1622.3	1152.6	-5.4	-310.0	
5.570	-532.2	-482.3	-329.3	-14.3	477.1	1392.1	2070.1	2121.2	1620.5	497.0	-62.6	
5.575	-559.6	-390.1	-57.9	416.6	980.7	1824.2	2387.2	2355.8	1749.1	546.8	-48.2	
5.580	-410.4	-99.3	325.8	818.0	1344.7	2066.9	2443.6	2224.6	1563.4	494.5	-27.4	
5.585	-126.9	224.9	653.6	1114.2	1566.4	2089.7	2270.8	2002.5	1401.6	445.1	-27.5	
5.590	171.7	517.2	896.8	1261.9	1591.3	1984.0	2087.8	1790.2	1215.5	378.4	-23.6	
5.595	417.1	713.9	1005.7	1275.7	1531.2	1856.1	1891.7	1555.8	1039.5	331.0	-16.5	
5.600	531.7	778.2	1021.1	1244.0	1443.8	1690.4	1700.7	1428.7	951.6	258.9	-43.0	
5.605	558.4	760.0	955.1	1127.1	1287.4	1543.1	1604.7	1404.6	957.4	233.5	-64.4	
5.610	531.7	664.3	801.0	949.6	1126.4	1452.9	1592.6	1425.6	994.1	282.8	-37.2	
5.615	438.8	531.4	652.0	810.2	1013.0	1381.3	1546.1	1379.3	988.4	393.6	56.8	
5.620	328.3	423.7	554.4	719.4	918.3	1259.3	1410.4	1279.1	947.0	419.8	87.8	
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19.940	33.2	12.6	-17.0	-58.8	-115.4	-217.1	-257.2	-189.0	-111.2	-23.2	12.9	
19.945	27.5	0.4	-42.1	-98.3	-162.1	-246.4	-268.7	-206.5	-124.4	-20.3	17.3	
19.950	10.2	-31.2	-82.8	-136.0	-184.5	-234.8	-257.7	-244.2	-168.9	-26.4	24.6	
19.955	-19.7	-60.5	-102.6	-141.9	-180.8	-247.7	-278.1	-230.2	-155.8	-45.3	11.0	
19.960	-34.8	-65.1	-103.0	-150.6	-207.2	-280.2	-276.9	-168.5	-84.5	-28.6	2.9	
19.965	-44.3	-81.5	-133.7	-191.7	-239.6	-250.4	-208.2	-127.9	-54.4	6.7	20.2	
19.970	-84.0	-131.0	-176.3	-205.5	-212.7	-187.6	-140.1	-87.9	-45.2	-14.7	0.4	
MAXIMUM	2907.6	2967.9	2694.2	2270.0	1682.8	2089.7	2443.6	2355.8	1749.1	819.5	362.2	
@TIME	5.270	5.270	5.265	4.645	11.060	5.585	5.580	5.575	5.575	8.030	8.030	
MINIMUM	-751.6	-834.4	-1136.2	-1567.7	-2516.4	-4432.9	-5540.3	-4816.0	-4038.2	-2312.5	-681.6	
@TIME	11.630	5.295	5.290	5.290	5.275	5.270	5.265	4.650	4.650	4.650	4.650	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. S(B17)-2 REV. NO. 3
SHEET NO. 60

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF_MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-3.83	-10.48	2.26	14.76	6.81	0.00	-6.81	-14.76	-2.26	10.48	3.83
0.005	-8.65	-12.14	3.04	16.73	10.72	0.00	-10.72	-16.73	-3.04	12.14	8.65
0.010	0.76	6.51	-5.19	-16.11	-8.09	0.00	8.09	16.11	5.19	-6.51	-0.76
0.015	3.43	10.61	-5.71	-20.10	-11.94	0.00	11.94	20.10	5.71	-10.61	-3.43
0.020	-5.29	6.72	2.93	-4.47	0.66	0.00	-0.66	4.47	-2.93	-6.72	5.29
0.025	2.89	1.38	-0.77	-2.74	-3.25	0.00	3.25	2.74	0.77	-1.41	-2.89
0.030	0.88	-3.10	-0.15	4.47	1.93	0.00	-1.93	-4.47	0.17	3.10	-0.86
0.035	-3.46	-0.36	2.48	2.81	3.50	0.00	-3.50	-2.81	-2.48	0.36	3.46
0.040	5.63	1.47	-3.97	-6.43	-4.72	0.00	4.72	6.43	3.97	-1.47	-5.58
0.045	1.88	1.87	-0.28	-1.86	-0.95	0.00	0.95	1.86	0.28	-1.87	-1.88
0.050	-1.72	0.13	3.10	4.16	2.92	0.00	-2.92	-4.16	-3.10	-0.08	1.75
0.055	1.60	1.76	0.15	-0.87	-0.55	0.00	0.55	0.87	-0.15	-1.76	-1.60
0.060	0.97	1.34	0.21	-1.17	-1.15	0.00	1.10	1.17	-0.21	-1.34	-0.97
0.065	-0.39	-0.28	0.50	1.28	1.19	0.00	-1.19	-1.28	-0.50	0.28	0.39
0.070	0.43	0.47	-0.09	-0.71	-0.55	0.00	0.48	0.71	0.09	-0.47	-0.38
0.075	0.52	0.31	-0.36	-0.75	-0.52	0.00	0.44	0.72	0.36	-0.31	-0.52
0.080	-0.61	-0.14	0.28	0.34	0.29	0.00	-0.34	-0.34	-0.23	0.14	0.64
0.085	-0.54	-0.27	-0.06	0.00	-0.03	0.00	0.03	-0.02	0.06	0.25	0.54
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19.900	3.88	2.60	0.80	-1.37	-4.07	-5.37	-4.77	-2.70	0.40	2.84	2.97
19.905	3.84	1.72	0.87	-0.47	-4.13	-6.14	-5.86	-3.88	0.49	4.12	3.83
19.910	5.49	7.91	0.56	-7.49	-7.33	-7.33	-6.36	-4.45	1.35	6.09	5.10
19.915	9.63	13.06	1.18	-12.15	-13.15	-12.14	-9.28	-5.72	2.79	9.28	7.35
19.920	8.30	5.90	2.78	-2.36	-10.30	-14.18	-13.18	-8.70	1.45	9.73	9.39
19.925	3.95	-1.47	1.21	3.50	-2.88	-7.76	-9.60	-8.09	-1.66	5.52	8.08
19.930	4.85	-1.84	-1.03	0.99	-3.89	-6.18	-6.24	-5.14	-0.89	4.10	6.35
19.935	5.63	0.85	0.54	-0.26	-7.05	-10.62	-9.91	-6.39	1.28	7.73	7.89
19.940	4.00	0.81	1.32	0.48	-6.22	-10.03	-9.85	-6.69	1.56	8.40	7.70
19.945	2.69	-0.27	0.45	0.70	-4.99	-7.70	-6.67	-3.32	1.63	5.52	5.15
19.950	5.49	3.32	1.02	-2.71	-9.58	-11.98	-8.92	-2.18	2.80	5.91	6.47
19.955	10.22	6.85	1.97	-5.07	-14.56	-17.98	-14.49	-6.66	3.51	10.70	10.64
19.960	6.98	4.38	2.50	-1.32	-9.50	-14.07	-13.48	-8.47	1.36	9.58	10.38
19.965	-0.41	-1.55	0.48	2.17	0.16	-1.61	-2.12	-1.42	-0.89	0.47	2.31
19.970	-2.75	-3.82	-1.74	1.99	4.00	5.46	5.25	2.89	-1.21	-4.07	-3.31
MAXIMUM	98.64	81.07	70.37	307.46	222.28	154.54	187.67	140.86	107.66	226.75	152.67
@TIME	4.655	4.660	4.660	4.640	4.645	4.650	4.650	4.650	4.655	5.265	5.265
MINIMUM	-181.77	-331.46	-125.08	-142.77	-171.60	-123.04	-220.34	-304.36	-63.06	-92.46	-72.29
@TIME	4.645	4.645	4.650	4.650	4.655	4.655	5.265	5.265	12.560	12.560	12.560

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DATE 3/16/01
CALC. NO. REV. NO. 3
SHEET NO. 61

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-8.48	-17.58	2.83	23.29	13.83	0.00	-13.83	-23.29	-2.83	17.58	8.48
0.005	-7.50	-1.62	1.87	3.74	7.92	0.00	-7.92	-3.74	-1.87	1.62	7.50
0.010	0.65	-6.98	-3.91	1.13	-3.66	0.00	3.66	-1.13	3.91	6.98	-0.65
0.015	-26.98	-48.44	10.67	69.48	43.71	-0.03	-43.69	-69.48	-10.67	48.44	26.98
0.020	-14.19	2.45	8.75	7.13	13.32	0.00	-13.35	-7.13	-8.75	-2.45	14.19
0.025	31.40	26.98	-19.88	-56.72	-42.64	0.00	42.62	56.72	19.88	-26.98	-31.38
0.030	-1.05	-7.11	-0.78	9.20	7.44	0.00	-7.44	-9.17	0.78	7.11	1.05
0.035	-15.46	-5.77	11.74	19.23	15.12	0.00	-15.12	-19.17	-11.74	5.77	15.46
0.040	11.34	5.67	-8.05	-15.25	-12.06	0.00	12.06	15.25	8.12	-5.67	-11.25
0.045	0.28	1.87	0.91	-0.60	-0.34	-0.06	0.31	0.60	-0.91	-1.81	-0.28
0.050	-5.77	-2.82	5.43	10.08	7.40	-0.06	-7.45	-10.08	-5.37	2.89	5.83
0.055	3.57	2.45	-1.98	-4.43	-3.12	0.00	3.06	4.43	1.98	-2.45	-3.57
0.060	1.46	1.26	-0.41	-2.22	-2.15	-0.06	2.07	2.25	0.46	-1.23	-1.44
0.065	-2.36	-1.38	1.50	3.80	3.39	-0.06	-3.44	-3.75	-1.44	1.43	2.38
0.070	0.54	0.44	-0.49	-1.42	-1.29	-0.06	1.15	1.35	0.49	-0.29	-0.43
0.075	1.13	0.57	-1.07	-1.83	-1.18	-0.06	1.03	1.83	1.10	-0.54	-1.06
0.080	-0.84	-0.40	0.75	1.24	0.93	-0.06	-1.01	-1.24	-0.70	0.43	0.84
0.085	0.27	0.33	0.04	-0.09	0.07	0.00	-0.07	0.15	-0.01	-0.28	-0.27
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19.900	6.44	12.26	5.11	0.24	-13.45	-31.57	-12.52	2.30	6.13	11.94	6.58
19.905	6.88	13.95	5.96	0.66	-15.41	-36.39	-14.04	3.20	7.31	13.80	7.19
19.910	6.52	14.84	7.20	2.66	-16.17	-40.94	-15.76	3.92	8.15	15.25	7.62
19.915	5.60	15.08	8.48	5.34	-15.53	-43.85	-16.70	4.47	8.23	15.72	7.31
19.920	6.77	16.84	8.67	4.37	-16.71	-45.06	-16.08	5.74	8.46	15.43	6.20
19.925	8.47	19.61	9.30	2.63	-19.93	-48.24	-17.02	6.67	10.24	16.94	6.06
19.930	7.17	20.15	10.64	3.74	-20.48	-50.49	-18.91	6.27	11.46	19.09	6.92
19.935	5.31	18.14	9.85	4.56	-18.30	-47.67	-16.84	7.44	11.09	17.84	5.79
19.940	4.01	15.79	8.30	3.74	-16.20	-41.34	-13.20	8.58	10.50	14.81	3.78
19.945	6.62	23.86	10.74	6.22	-22.54	-64.29	-16.88	16.77	13.23	18.58	5.18
19.950	17.82	45.85	16.97	-4.36	-45.35	-100.01	-28.02	27.95	23.15	25.29	9.06
19.955	23.65	46.02	17.61	-8.58	-49.40	-93.13	-35.25	13.63	23.19	32.06	13.96
19.960	6.52	19.75	14.12	7.46	-17.01	-46.09	-26.06	-4.07	8.69	21.52	10.28
19.965	-8.93	2.42	5.92	10.50	6.77	-4.76	3.18	8.98	-0.10	-4.61	-7.66
19.970	-8.27	-3.58	-0.13	6.42	9.14	9.06	15.05	13.25	0.59	-10.69	-16.36
MAXIMUM	184.68	329.41	148.48	404.30	239.64	331.03	286.94	374.90	226.89	445.76	278.45
@TIME	5.255	5.255	5.770	5.265	4.645	10.865	4.650	5.255	4.640	5.265	5.265
MINIMUM	-234.81	-409.85	-128.53	-249.64	-402.55	-608.20	-374.58	-583.71	-150.11	-229.57	-161.85
@TIME	4.645	4.645	16.600	12.500	12.495	5.255	5.265	5.265	12.560	4.975	4.670

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK BWM DATE 3/16/01
CALC. NO. 6B0171-2 REV. NO. 3
SHEET NO. 62

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	3.50	3.73	0.35	-10.10	-41.76	-1.53	103.18	24.63	-25.34	-14.86
0.005	4.42	-5.86	-23.83	-43.28	-48.73	11.75	120.04	74.44	30.15	-43.33
0.010	-22.92	-41.14	-48.68	-31.34	36.50	36.94	19.61	15.62	-43.18	-4.63
0.015	-52.59	-45.57	-16.12	28.53	93.74	71.35	11.58	-96.22	-200.64	29.95
0.020	-34.72	-5.14	32.34	70.08	119.20	72.99	-56.77	-58.32	-56.18	-36.83
0.025	9.88	42.42	73.23	90.24	65.67	29.33	-23.66	-15.94	-3.61	-68.26
0.030	52.63	70.38	68.50	43.02	-3.50	2.67	24.70	-26.61	-55.26	-35.60
0.035	54.81	41.53	19.83	4.64	1.31	-17.49	-44.08	-19.59	-3.51	-1.43
0.040	23.64	13.13	7.94	2.52	-17.10	-25.55	-22.86	-18.30	-5.83	13.52
0.045	12.79	6.68	-5.40	-18.60	-19.67	-13.73	-2.87	2.63	2.29	3.62
0.050	-2.31	-12.32	-17.08	-12.97	-3.61	-1.52	0.17	4.57	4.49	-1.06
0.055	-16.48	-14.70	-8.46	-3.45	2.59	5.23	3.25	-2.99	-6.80	-0.69
0.060	-9.04	-8.17	-5.99	-1.50	4.40	2.62	-2.56	-0.73	0.04	-0.83
0.065	1.06	-0.86	-1.32	-1.64	-2.18	-1.05	1.30	0.24	-1.29	-0.36
0.070	8.92	7.11	2.70	-1.01	-1.91	-2.59	-2.67	-1.21	-0.79	0.55
0.075	6.87	8.07	8.06	6.19	1.18	-2.05	-4.21	-3.71	-1.93	0.16
0.080	0.67	5.44	8.25	8.29	5.84	2.73	-1.38	-3.27	-4.56	-2.77
0.085	-4.35	-1.11	2.66	6.13	8.49	7.32	2.37	-1.71	-4.19	-4.66
0.090	-7.09	-4.99	-1.59	2.01	6.00	6.51	4.30	0.98	-2.46	-3.28
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19.900	9.02	7.28	4.29	0.41	-5.87	-7.24	-6.25	-9.23	-9.16	-8.78
19.905	5.40	2.34	-1.87	-6.66	-13.51	-9.62	1.56	0.02	1.72	-4.47
19.910	-0.19	-4.76	-9.35	-11.70	-7.23	-6.32	-3.62	1.16	-1.37	1.69
19.915	-7.74	-10.68	-10.30	-5.84	3.72	0.11	-10.48	-8.52	-5.97	7.25
19.920	-8.29	-5.57	-1.62	-0.02	-6.84	-2.51	7.89	3.45	8.40	-0.90
19.925	-0.39	0.57	-2.54	-9.53	-19.69	-5.29	26.48	23.09	18.29	-8.75
19.930	-0.34	-5.25	-11.35	-16.05	-19.52	-4.67	22.28	19.02	20.46	1.18
19.935	-6.68	-10.12	-12.82	-15.78	-22.01	-9.63	18.09	20.08	26.83	9.99
19.940	-7.86	-10.75	-15.11	-20.52	-26.35	-10.47	24.74	28.14	31.91	10.73
19.945	-10.33	-15.45	-20.36	-23.10	-21.84	-5.78	22.51	29.73	37.68	11.13
19.950	-15.78	-18.69	-19.24	-17.60	-12.97	-5.94	4.91	27.23	51.60	15.10
19.955	-15.57	-15.24	-14.23	-14.12	-17.30	-7.90	17.31	26.97	40.01	16.71
19.960	-11.53	-13.75	-17.22	-20.53	-18.87	0.80	39.32	30.48	20.27	9.36
19.965	-14.19	-18.86	-21.03	-17.33	-2.77	10.95	29.07	26.64	22.14	4.06
19.970	-17.91	-16.40	-10.62	-2.62	6.53	12.31	18.96	15.52	11.03	4.44
MAXIMUM	299.03	223.70	178.31	204.38	237.02	175.67	1006.93	659.81	625.24	483.99
@TIME	4.645	4.645	5.580	5.575	5.570	5.570	5.265	5.270	4.650	4.650
MINIMUM	-383.85	-541.07	-618.26	-803.32	-1135.69	-632.99	-754.64	-239.56	-435.62	-176.51
@TIME	5.275	5.275	5.270	5.270	5.265	4.645	5.255	5.580	5.575	5.575

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK RMM DATE 3/16/01
CALC. NO. 61(2023)-2 REV. NO. 3
SHEET NO. 63

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	13.3	-17.3	-91.4	-77.7	23.6	73.6	73.6	23.6	-77.7	-91.4	-17.3	13.3
0.005	3.6	-48.3	-124.0	-100.3	14.6	87.7	87.7	14.6	-100.4	-124.1	-48.3	3.6
0.010	10.2	-6.8	-61.7	-66.4	-18.4	-0.5	-0.5	-18.5	-66.5	-61.8	-6.8	10.2
0.015	12.8	-33.0	-145.0	-142.1	-15.9	48.7	48.6	-16.1	-142.2	-145.1	-33.0	12.8
0.020	-21.0	-66.5	-73.3	-61.9	-50.2	-24.0	-24.0	-50.3	-62.0	-73.4	-66.5	-20.9
0.025	5.4	28.4	36.1	3.6	-55.1	-103.0	-103.1	-55.2	3.6	36.2	28.5	5.4
0.030	1.1	-25.4	-83.6	-77.6	-1.8	43.3	43.2	-1.9	-77.5	-83.4	-25.3	1.1
0.035	-5.3	-26.0	-31.5	-20.0	-8.7	4.4	4.3	-8.7	-20.1	-31.5	-26.0	-5.3
0.040	16.6	52.1	66.0	30.5	-27.9	-66.2	-66.4	-28.1	30.3	65.8	52.0	16.6
0.045	-0.9	-5.8	-5.7	2.0	13.2	23.2	23.1	12.9	1.8	-5.9	-5.8	-0.9
0.050	-0.8	-4.3	-1.1	15.2	35.5	47.1	47.0	35.3	15.0	-1.3	-4.4	-0.8
0.055	3.6	19.8	39.5	41.4	30.4	23.2	23.1	30.2	41.2	39.4	19.8	3.6
0.060	-0.7	0.0	8.4	21.4	31.3	35.8	35.7	31.0	21.3	8.3	0.0	-0.6
0.065	-0.9	-2.3	-0.4	5.4	14.2	21.1	20.9	13.9	5.1	-0.6	-2.3	-0.9
0.070	0.4	3.2	7.0	4.1	-5.3	-12.0	-12.1	-5.6	3.8	6.8	3.1	0.4
0.075	0.4	-1.1	-4.6	-9.4	-12.9	-13.7	-13.8	-13.1	-9.5	-4.7	-1.1	0.4
0.080	-0.4	-3.6	-7.5	-11.3	-14.6	-15.9	-16.0	-14.8	-11.5	-7.6	-3.6	-0.4
0.085	-0.1	-0.9	-2.7	-7.4	-13.1	-16.1	-16.2	-13.3	-7.5	-2.8	-0.9	-0.1
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19.900	-2.5	13.9	49.7	65.6	65.1	37.5	-16.7	-44.1	-41.1	-28.4	-2.9	6.8
19.905	-3.6	13.0	48.8	66.0	68.8	38.7	-22.3	-53.5	-51.2	-36.1	-4.5	7.5
19.910	-4.9	11.9	48.3	67.0	73.2	40.4	-27.6	-62.9	-61.2	-43.6	-6.0	8.3
19.915	-6.4	10.7	48.4	68.9	77.8	42.3	-32.3	-71.4	-70.0	-50.2	-7.4	9.1
19.920	-7.8	9.2	47.7	69.9	81.7	44.1	-35.9	-78.1	-76.6	-55.0	-8.0	10.0
19.925	-9.3	7.2	46.2	69.8	84.3	45.5	-38.4	-82.8	-81.0	-58.1	-8.3	10.8
19.930	-18.7	1.2	56.8	88.2	114.9	64.8	-59.6	-115.5	-102.1	-71.3	-4.0	19.5
19.935	-27.0	1.1	84.8	132.4	160.2	84.7	-85.7	-164.4	-144.3	-96.3	-4.3	26.9
19.940	-21.8	7.6	88.5	135.4	151.6	74.3	-77.6	-157.3	-148.5	-100.5	-10.3	22.2
19.945	-12.4	5.0	53.6	84.3	98.5	48.6	-49.4	-104.3	-99.9	-68.3	-8.8	13.3
19.950	-6.8	3.5	31.4	50.2	62.8	30.7	-34.1	-68.9	-61.7	-41.1	-4.8	8.7
19.955	-9.4	1.6	32.1	51.6	68.8	37.0	-35.3	-72.3	-64.6	-44.6	-4.4	11.2
19.960	-14.0	-3.6	36.9	64.1	82.9	45.6	-40.1	-85.2	-76.3	-51.6	-4.4	14.2
19.965	-14.8	1.5	64.2	87.6	79.0	33.2	-51.4	-90.4	-74.1	-46.8	-1.0	16.0
19.970	-4.9	12.2	57.2	72.5	49.6	11.6	-30.9	-55.6	-52.2	-31.6	-4.2	5.7
MAXIMUM	113.4	355.0	894.7	1060.1	1109.2	1605.4	1874.6	1639.9	1474.2	1037.2	378.6	122.8
@TIME	12.585	10.810	11.045	4.715	5.825	5.265	5.265	5.265	11.030	11.030	11.030	5.600
MINIMUM	-276.2	-652.7	-1531.0	-1177.2	-1356.7	-1451.8	-1601.0	-1853.6	-1962.8	-1678.4	-527.5	-146.5
@TIME	4.650	5.265	5.265	5.270	5.760	5.760	4.640	5.250	5.255	5.255	5.255	12.385

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. CA1201-2 REV. NO. 3
SHEET NO. 64

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	11.4	-11.4	-53.5	-45.7	11.4	43.4	43.4	11.4	-45.7	-53.5	-11.4	11.4
0.005	-0.2	-29.0	-41.9	-33.1	-8.9	19.5	19.5	-8.9	-33.1	-41.9	-29.0	-0.2
0.010	7.5	-18.2	-105.4	-99.0	2.5	38.3	38.3	2.5	-99.0	-105.4	-18.2	7.5
0.015	5.3	-107.7	-342.1	-286.0	51.1	224.9	224.9	51.1	-286.0	-342.1	-107.7	5.3
0.020	-11.4	-104.0	-217.9	-181.0	-19.6	81.9	81.9	-19.6	-181.1	-218.0	-104.0	-11.4
0.025	21.7	52.2	39.6	-29.9	-123.0	-187.4	-187.3	-122.9	-29.9	39.7	52.2	21.7
0.030	1.9	-7.9	-43.6	-84.0	-108.2	-117.7	-117.6	-108.2	-83.9	-43.5	-7.8	2.0
0.035	-13.2	-52.0	-87.0	-81.5	-51.7	-32.0	-32.2	-51.9	-81.7	-87.2	-52.1	-13.2
0.040	4.5	17.2	20.7	4.4	-17.6	-30.8	-31.0	-18.0	3.9	20.3	17.1	4.5
0.045	-0.3	7.1	23.5	35.5	37.2	35.3	35.0	36.7	35.0	23.1	6.9	-0.2
0.050	-2.6	-7.3	-2.0	24.4	61.1	82.9	82.7	60.7	24.0	-2.3	-7.4	-2.5
0.055	2.3	11.1	24.5	34.4	39.4	41.3	41.3	39.3	34.3	24.3	11.1	2.3
0.060	2.7	10.9	19.1	21.9	19.8	16.3	16.1	19.5	21.8	19.0	10.9	2.7
0.065	-1.2	-5.6	-8.9	-4.4	6.0	13.2	12.9	5.4	-4.9	-9.2	-5.7	-1.1
0.070	0.1	-1.8	-6.0	-9.3	-11.2	-13.0	-13.2	-11.7	-9.8	-6.5	-1.9	0.1
0.075	-0.2	-0.6	-4.0	-12.1	-20.9	-25.6	-25.7	-21.2	-12.4	-4.2	-0.6	-0.1
0.080	-1.5	-6.9	-14.0	-17.3	-17.1	-16.8	-16.9	-17.2	-17.4	-14.0	-6.8	-1.4
0.085	-0.7	-3.1	-6.5	-9.7	-11.2	-11.4	-11.5	-11.5	-9.9	-6.6	-3.0	-0.6
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19.900	-0.3	15.6	43.4	55.1	53.1	23.5	-29.3	-59.8	-63.2	-50.4	-19.1	-0.5
19.905	-1.7	18.1	54.4	68.3	63.2	26.0	-37.8	-72.3	-71.2	-54.8	-19.9	0.6
19.910	-3.0	20.6	65.5	81.8	74.0	29.1	-45.8	-84.6	-79.4	-59.4	-20.6	1.9
19.915	-4.2	22.5	75.2	93.9	84.0	32.5	-52.6	-95.2	-85.9	-62.7	-20.7	3.2
19.920	-5.6	23.7	82.9	103.8	92.7	36.0	-57.7	-103.3	-90.4	-64.4	-19.9	4.8
19.925	-6.8	24.2	88.7	111.7	100.2	39.5	-60.8	-108.9	-93.0	-64.9	-18.7	6.4
19.930	-4.5	27.3	92.4	115.9	100.4	38.3	-57.8	-106.3	-91.7	-63.6	-20.0	4.6
19.935	-0.8	33.1	97.5	118.8	98.4	35.9	-54.7	-101.9	-87.6	-61.8	-23.2	1.5
19.940	-9.7	34.0	123.7	153.5	142.8	61.6	-82.6	-145.0	-113.8	-78.8	-20.9	10.6
19.945	-18.8	43.2	180.5	230.4	209.2	86.3	-123.4	-215.6	-167.3	-108.6	-24.7	18.0
19.950	-15.6	51.9	192.6	242.3	208.6	80.7	-116.7	-209.6	-169.5	-109.5	-25.3	17.9
19.955	-15.4	21.5	110.1	149.3	148.0	73.0	-63.3	-129.5	-106.8	-69.6	-7.1	19.9
19.960	-17.3	-7.3	46.3	75.6	87.6	51.3	-33.8	-68.4	-38.0	-15.9	10.7	18.7
19.965	-13.7	0.3	54.3	73.9	71.6	32.3	-43.4	-63.6	-18.1	6.0	19.2	18.9
19.970	-4.7	4.7	36.8	56.4	53.4	28.1	-9.1	-30.5	-23.4	-6.5	9.0	8.8
MAXIMUM	112.3	416.7	1153.2	1682.8	1824.8	2026.1	2310.0	2341.5	2076.9	1421.7	504.7	104.7
@TIME	12.510	10.810	10.810	10.810	10.810	11.030	11.030	11.030	11.030	11.030	11.030	5.265
MINIMUM	-206.7	-544.2	-997.1	-1089.2	-1811.8	-2050.1	-2094.7	-1992.1	-2189.4	-1951.2	-729.0	-117.9
@TIME	5.250	5.265	5.265	6.030	6.030	6.030	5.240	5.240	5.250	5.250	5.250	11.015

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AMM DATE 3/16/01
CALC. NO. G(B4)-2 REV. NO. 3
SHEET NO. 65

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-188.4	-122.5	177.3	240.9	110.9	-154.6	-251.0	74.9	172.2	108.8	64.1	
0.005	-346.3	-154.3	293.1	448.8	311.6	-214.4	-496.2	-75.0	199.5	290.0	174.9	
0.010	-39.6	134.0	259.6	228.9	-73.8	-116.2	-12.4	30.5	43.2	-115.4	-102.2	
0.015	329.9	417.5	316.0	-84.2	-730.1	-261.8	573.5	732.7	401.5	-320.8	-322.7	
0.020	441.0	375.8	37.1	-312.4	-546.0	-101.4	578.1	878.1	841.0	405.8	70.1	
0.025	47.6	-89.3	-121.9	-32.9	194.7	297.8	368.6	583.1	650.4	551.9	242.2	
0.030	-361.4	-216.2	184.1	511.8	641.8	396.6	158.8	180.3	122.9	93.3	53.8	
0.035	-33.0	218.9	386.7	500.7	501.9	353.0	101.6	-115.6	-183.0	-153.1	-64.0	
0.040	303.0	382.2	374.8	294.8	213.9	155.8	96.3	23.9	-61.9	-104.5	-52.6	
0.045	295.3	289.1	241.1	174.1	85.4	32.1	46.1	92.6	128.1	107.1	39.8	
0.050	190.2	176.3	127.1	75.0	49.4	72.2	94.6	91.4	84.2	62.1	23.3	
0.055	48.6	45.2	52.5	69.7	81.7	105.4	110.9	68.2	9.2	-34.1	-23.5	
0.060	5.0	0.0	14.6	45.2	71.2	80.1	59.0	29.4	16.2	7.7	1.3	
0.065	65.7	43.7	19.7	3.3	-6.3	10.7	36.8	44.6	39.3	23.1	6.7	
0.070	103.9	85.0	38.7	-10.2	-44.4	-23.6	14.2	24.2	23.7	10.1	0.3	
0.075	53.9	56.2	42.9	21.3	-2.1	-18.8	-25.8	-24.7	-18.3	-10.2	-3.2	
0.080	-2.3	10.0	25.1	34.6	26.4	0.7	-27.9	-41.8	-41.4	-33.7	-14.4	
0.085	3.9	-3.2	-4.7	-1.2	3.6	7.5	2.1	-10.9	-20.1	-19.7	-8.4	
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19.900	238.4	267.4	278.4	274.8	256.1	233.5	197.5	148.8	96.7	44.9	10.2	
19.905	200.7	227.2	252.4	262.0	255.2	207.4	145.5	106.3	68.9	39.0	13.5	
19.910	163.3	185.0	219.3	237.2	238.7	170.5	90.4	63.7	42.7	34.4	17.1	
19.915	124.2	140.8	180.8	203.6	210.9	127.2	35.2	23.0	18.9	30.1	20.2	
19.920	80.4	91.8	137.0	164.9	178.1	83.6	-16.5	-15.9	-4.8	23.9	21.9	
19.925	33.4	40.1	89.7	123.0	142.6	42.0	-62.5	-50.4	-26.4	16.9	22.4	
19.930	-12.1	-10.0	41.5	78.9	104.9	3.0	-101.3	-78.0	-42.7	12.0	23.1	
19.935	-53.2	-56.6	-8.0	32.6	69.2	-29.9	-133.0	-100.0	-54.8	9.1	24.0	
19.940	-94.1	-101.0	-49.0	-4.9	34.7	-57.4	-155.2	-120.0	-68.5	5.9	25.0	
19.945	-132.8	-136.8	-76.7	-30.4	5.8	-77.3	-172.3	-152.3	-96.1	4.9	31.4	
19.950	-158.2	-158.2	-96.2	-47.6	-10.0	-101.0	-203.2	-173.7	-110.4	-5.5	28.7	
19.955	-171.2	-166.7	-103.7	-60.9	-37.1	-137.5	-225.8	-157.1	-88.1	-17.2	14.1	
19.960	-179.6	-175.4	-118.2	-86.7	-69.4	-146.6	-210.2	-138.0	-68.9	-2.7	19.5	
19.965	-203.8	-208.5	-155.2	-118.5	-80.2	-84.3	-125.1	-101.7	-60.6	-32.9	-8.2	
19.970	-219.9	-225.1	-189.6	-137.7	-74.4	-5.0	11.9	-14.1	-39.5	-61.0	-33.6	
MAXIMUM	1464.8	1645.4	1796.3	1501.8	1839.9	1671.9	1774.9	2109.2	1691.5	1005.7	401.6	
@TIME	5.075	5.070	5.045	5.045	8.030	5.815	12.565	5.590	5.590	11.210	11.215	
MINIMUM	-3047.1	-3404.5	-2693.0	-2507.9	-2873.0	-2631.9	-3453.6	-2607.3	-2287.4	-2002.6	-874.5	
@TIME	5.275	5.270	5.275	5.280	11.210	5.280	5.260	12.525	11.225	11.225	11.225	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 2
SHEET NO. 66

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-12.94	-26.86	4.98	36.71	21.07	0.00	-21.07	-36.71	-4.98	26.86	12.94
0.005	-21.90	-27.44	8.55	41.63	30.86	0.00	-30.86	-41.66	-8.55	27.47	21.90
0.010	-7.21	-19.91	-1.69	17.39	7.55	0.00	-7.61	-17.39	1.69	19.91	7.21
0.015	-19.30	-40.61	1.05	45.75	27.20	-0.03	-27.25	-45.70	-1.05	40.64	19.33
0.020	-19.25	-2.45	4.14	4.25	11.09	0.00	-11.09	-4.25	-4.14	2.48	19.25
0.025	9.71	2.77	-11.78	-21.25	-20.15	-0.06	20.15	21.35	11.81	-2.77	-9.71
0.030	-11.22	-21.05	2.20	27.44	19.03	-0.06	-19.03	-27.39	-2.15	21.05	11.17
0.035	-8.79	-1.95	4.15	4.10	5.51	0.00	-5.54	-4.13	-4.15	1.99	8.79
0.040	15.02	5.00	-12.85	-21.16	-16.17	0.00	16.12	21.19	12.85	-4.97	-14.91
0.045	-2.07	0.04	2.81	4.06	4.24	-0.06	-4.26	-4.06	-2.81	0.07	2.15
0.050	-1.49	1.17	5.86	7.35	4.91	-0.06	-4.96	-7.32	-5.86	-1.14	1.52
0.055	6.82	7.16	0.66	-4.06	-3.03	0.00	3.03	4.06	-0.63	-7.13	-6.82
0.060	0.26	3.04	4.73	3.55	1.91	-0.06	-1.96	-3.52	-4.68	-3.01	-0.23
0.065	-0.62	0.69	2.08	3.21	2.87	-0.06	-2.98	-3.21	-2.05	-0.62	0.62
0.070	1.18	1.40	-1.01	-3.41	-2.79	0.00	2.74	3.41	1.12	-1.37	-1.16
0.075	-0.61	-1.29	-1.76	-1.28	-0.29	-0.06	0.26	1.31	1.76	1.32	0.66
0.080	-1.36	-1.46	-1.35	-1.15	-0.58	-0.06	0.47	1.23	1.38	1.46	1.36
0.085	-0.32	-0.67	-1.67	-2.11	-1.22	0.00	1.19	2.11	1.69	0.70	0.34
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19.900	6.91	12.97	5.76	-0.23	-11.67	-27.39	-11.57	1.09	4.58	9.24	4.10
19.905	7.01	12.97	6.21	1.02	-12.70	-30.83	-13.17	0.84	5.48	11.45	5.05
19.910	7.10	13.15	6.82	2.24	-13.82	-34.37	-14.92	0.57	6.38	13.64	6.08
19.915	7.26	13.64	7.45	3.24	-15.03	-37.67	-16.51	0.50	7.21	15.52	6.98
19.920	7.23	13.97	8.04	4.28	-15.88	-40.40	-17.82	0.52	7.84	17.03	7.64
19.925	7.00	14.18	8.56	5.28	-16.33	-42.47	-18.71	0.62	8.32	18.04	8.05
19.930	8.44	20.14	11.40	9.69	-21.15	-62.81	-23.56	4.81	11.15	24.40	9.91
19.935	11.87	30.35	17.28	10.03	-31.84	-86.08	-33.19	7.29	17.38	33.31	13.18
19.940	12.42	29.34	16.93	5.84	-32.64	-76.68	-33.67	3.15	17.37	32.64	13.70
19.945	7.32	17.55	11.16	5.14	-21.06	-49.48	-23.13	1.60	11.46	21.55	9.28
19.950	4.37	10.10	6.84	4.57	-13.53	-32.74	-14.70	2.62	7.43	13.13	5.73
19.955	4.62	11.05	7.06	6.19	-13.39	-36.54	-15.56	2.76	7.25	14.54	6.60
19.960	4.43	14.70	9.83	6.82	-15.73	-43.29	-19.05	3.22	8.99	17.04	7.85
19.965	6.89	22.73	8.48	-3.14	-19.33	-42.70	-16.47	5.90	9.88	16.58	7.21
19.970	7.20	16.33	5.57	-8.27	-16.03	-21.49	-10.41	1.24	7.48	9.93	4.12
MAXIMUM	142.73	237.72	165.80	630.43	396.08	288.50	194.16	324.43	197.80	417.00	210.68
@TIME	5.255	4.715	5.265	5.265	5.265	5.755	6.005	4.640	4.640	5.255	5.255
MINIMUM	-202.05	-318.21	-157.45	-279.01	-323.01	-466.82	-297.69	-427.89	-218.57	-238.67	-144.70
@TIME	5.270	5.265	5.760	5.755	5.250	5.250	5.255	5.260	5.265	11.030	11.030

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK QMM DATE 3/16/01
CALC. NO. G(B012)-2 REV. NO. 3
SHEET NO. 62

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-9.64	-15.24	2.83	20.69	13.53	0.00	-13.53	-20.69	-2.83	15.24	9.64
0.005	-12.15	-4.71	3.17	8.75	12.02	0.00	-12.02	-8.75	-3.17	4.71	12.15
0.010	-10.87	-31.58	2.29	36.79	15.11	0.00	-15.11	-36.79	-2.29	31.58	10.87
0.015	-47.65	-84.93	20.35	122.15	73.33	-0.03	-73.33	-122.15	-20.33	84.93	47.65
0.020	-39.08	-41.30	13.36	58.50	42.85	0.00	-42.85	-58.50	-13.36	41.30	39.08
0.025	12.88	-4.57	-25.20	-33.67	-27.18	0.04	27.17	33.72	25.16	4.57	-12.85
0.030	-4.14	-12.96	-14.67	-8.80	-4.00	0.04	4.00	8.80	14.60	12.96	4.14
0.035	-16.37	-12.69	1.99	10.80	8.28	-0.06	-8.34	-10.80	-1.99	12.77	16.37
0.040	5.37	1.24	-5.90	-7.99	-5.58	-0.06	5.44	7.99	5.94	-1.22	-5.29
0.045	3.15	5.97	4.34	0.64	-0.81	-0.11	0.71	-0.62	-4.31	-5.85	-2.97
0.050	-2.06	1.94	9.55	13.24	9.22	-0.06	-9.27	-13.24	-9.51	-1.84	2.06
0.055	3.69	4.82	3.61	1.76	0.82	0.00	-0.82	-1.80	-3.61	-4.79	-3.69
0.060	3.43	2.98	1.06	-0.80	-1.50	-0.06	1.44	0.83	-1.01	-2.92	-3.43
0.065	-1.89	-1.16	1.60	3.81	3.06	-0.11	-3.16	-3.75	-1.53	1.32	1.89
0.070	-0.76	-1.52	-1.11	-0.72	-0.70	-0.11	0.64	0.70	1.26	1.63	0.83
0.075	-0.15	-1.27	-2.96	-3.14	-1.96	-0.06	1.94	3.17	2.96	1.27	0.19
0.080	-2.28	-2.57	-1.21	0.10	0.10	-0.06	-0.17	-0.02	1.21	2.63	2.28
0.085	-1.01	-1.25	-1.15	-0.56	-0.09	-0.06	0.04	0.56	1.18	1.33	1.01
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19.900	6.73	10.05	4.25	-0.73	-12.48	-26.69	-12.91	-1.22	4.63	11.34	7.87
19.905	8.37	13.14	4.96	-1.86	-15.74	-32.19	-14.55	0.39	5.95	12.73	8.66
19.910	9.91	16.29	5.90	-2.85	-18.89	-37.84	-16.39	1.91	7.29	14.05	9.50
19.915	11.31	19.09	6.81	-3.60	-21.71	-42.95	-17.96	3.33	8.46	15.26	10.12
19.920	12.36	21.40	7.59	-4.05	-23.97	-47.28	-19.24	4.69	9.44	16.10	10.46
19.925	13.08	23.34	8.39	-4.17	-25.55	-50.69	-20.31	5.72	10.16	16.77	10.53
19.930	13.41	23.59	8.49	-5.63	-26.20	-48.51	-20.49	5.28	10.14	15.78	10.37
19.935	14.29	23.37	7.75	-7.43	-26.37	-45.75	-19.91	5.16	9.40	13.96	10.45
19.940	18.45	32.51	10.83	-3.90	-34.30	-72.81	-26.29	11.27	12.72	21.01	13.31
19.945	26.14	49.76	18.09	-7.70	-51.90	-105.88	-38.93	17.49	21.27	30.38	18.05
19.950	28.46	50.98	18.03	-12.19	-54.02	-99.70	-39.17	14.58	21.67	30.49	18.25
19.955	15.58	32.09	14.15	-0.51	-31.67	-68.84	-27.92	8.21	13.49	22.63	11.42
19.960	4.20	19.47	10.62	4.35	-15.31	-43.05	-14.58	11.02	8.03	9.63	3.34
19.965	5.91	19.57	7.03	-0.83	-16.63	-38.25	-8.52	16.50	8.72	4.72	-0.18
19.970	3.98	11.68	7.11	-1.05	-10.71	-18.76	-9.05	2.59	6.13	5.61	-0.04
MAXIMUM	159.85	266.86	191.90	477.19	371.11	308.88	224.99	374.84	237.70	442.84	263.16
@TIME	10.810	10.810	10.810	5.260	5.265	10.860	10.860	5.240	12.515	5.250	5.250
MINIMUM	-175.70	-273.21	-209.27	-290.32	-327.49	-420.70	-316.48	-348.07	-237.38	-332.26	-198.64
@TIME	5.265	5.260	6.030	6.035	12.515	12.515	10.810	10.810	11.030	11.030	11.030

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 68

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	25.12	108.63	23.01	-47.08	-68.80	-25.07	118.10	35.23	-22.98	-13.30
0.005	73.27	162.13	56.43	-49.72	-136.27	-73.00	152.55	99.40	32.83	-34.12
0.010	66.29	45.55	-11.17	-109.70	-10.99	26.89	15.54	4.59	-57.48	3.89
0.015	33.45	-36.76	-144.98	-233.99	121.35	216.43	57.74	-119.99	-261.75	-0.56
0.020	-24.91	-122.69	-126.62	-84.64	115.17	176.00	108.78	-13.40	-157.69	-99.63
0.025	-52.22	-11.75	32.23	82.41	26.72	18.36	77.72	24.42	-35.74	-91.91
0.030	55.43	145.04	118.74	47.10	-63.56	-61.55	7.80	-20.75	-10.71	-11.70
0.035	96.21	60.83	41.29	0.41	-38.53	-65.12	-78.68	-24.40	10.82	26.37
0.040	30.23	-2.70	-28.99	-29.34	-15.03	-15.40	-26.27	-31.10	-15.39	15.35
0.045	-2.42	-17.37	-24.27	-32.14	-13.86	3.62	16.88	12.86	-7.59	-19.91
0.050	-5.36	-17.77	-18.83	-9.25	5.90	5.84	-1.20	-2.62	-7.96	-11.52
0.055	-1.30	2.66	6.23	4.38	6.18	1.41	-15.52	-21.40	-15.73	3.17
0.060	-1.90	5.31	11.12	9.44	2.28	-5.43	-10.70	-4.75	-3.10	-1.94
0.065	-8.38	-8.69	-5.92	-3.45	4.41	6.69	2.78	-1.89	-5.86	-4.91
0.070	-7.22	-16.76	-17.72	-12.42	5.34	9.83	3.66	-0.23	-4.95	-2.92
0.075	0.91	-4.81	-7.85	-8.51	-4.30	-1.82	0.37	2.36	2.85	2.08
0.080	4.63	5.44	3.47	-2.97	-6.72	-7.37	-5.05	0.15	2.75	5.74
0.085	-2.69	-0.48	1.25	1.78	1.10	-1.39	-4.70	-3.35	0.12	3.31
0.090	-10.27	-9.47	-5.18	-1.03	5.94	6.60	2.67	-0.02	-3.50	-3.41
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.										
.										
19.900	11.05	4.01	-1.27	-6.75	-5.88	-9.33	-17.66	-18.88	-18.79	-10.31
19.905	10.09	9.14	3.52	-2.45	-12.41	-16.02	-14.22	-13.56	-10.81	-7.56
19.910	8.31	12.45	6.51	0.52	-17.68	-20.73	-9.69	-7.63	-3.02	-5.17
19.915	6.30	14.53	8.28	2.69	-21.72	-23.86	-4.43	-1.51	4.10	-2.94
19.920	4.34	16.43	10.13	4.80	-24.48	-25.88	0.18	4.02	10.39	-0.57
19.925	2.58	17.95	12.05	7.11	-26.06	-27.08	4.39	8.65	15.68	1.60
19.930	0.79	18.70	13.50	9.41	-26.44	-27.02	8.43	12.79	19.82	3.28
19.935	-1.25	17.64	14.67	13.26	-25.62	-26.73	11.96	16.34	23.14	4.41
19.940	-2.63	18.83	15.98	14.40	-23.85	-25.36	12.78	18.68	26.95	5.70
19.945	-1.52	21.78	16.79	13.13	-21.52	-24.66	7.24	20.34	36.60	7.89
19.950	0.01	22.44	17.64	13.58	-23.58	-26.49	10.69	22.96	38.04	10.19
19.955	1.68	22.88	15.49	8.65	-25.98	-22.87	24.89	24.98	25.65	9.30
19.960	1.63	20.66	11.44	6.25	-20.05	-16.43	26.16	25.10	23.97	6.54
19.965	-1.83	19.35	13.28	13.89	-1.09	-10.53	8.45	14.87	10.09	7.32
19.970	-2.01	12.86	18.80	22.90	17.93	4.39	-9.39	-9.19	-7.81	8.15
MAXIMUM	229.60	589.50	311.12	442.17	300.72	589.99	742.42	398.17	403.22	334.78
@TIME	5.410	11.540	11.540	4.650	12.565	11.210	5.260	5.265	12.525	11.225
MINIMUM	-240.55	-329.58	-456.85	-535.09	-593.39	-334.74	-479.28	-188.88	-391.69	-187.82
@TIME	11.215	10.855	11.210	11.210	5.260	12.520	5.240	5.585	5.040	5.595

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. 4(Part 7)-2 REV. NO. 3
SHEET NO. 69

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.2	-0.5	-0.5	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	0.9	0.9	0.1	-0.1	-0.2	0.0	0.8	0.9	0.3	0.2
0.015	0.2	0.2	1.0	1.0	0.3	0.2	0.2	0.2	0.9	0.9	0.2	0.2
0.020	0.2	0.4	1.2	1.2	0.5	0.3	0.2	0.3	1.1	1.1	0.3	0.2
0.025	0.2	0.3	1.2	1.2	0.5	0.4	0.3	0.4	1.1	1.0	0.3	0.2
0.030	0.2	0.3	1.1	1.2	0.5	0.3	0.2	0.3	1.0	1.0	0.3	0.2
0.035	0.2	0.3	1.1	1.1	0.4	0.2	0.1	0.2	0.9	1.0	0.3	0.2
0.040	0.2	0.3	1.1	1.1	0.3	0.1	0.0	0.1	0.8	0.9	0.3	0.2
0.045	0.2	0.3	1.0	1.0	0.3	0.1	-0.1	0.0	0.8	0.8	0.2	0.2
0.050	0.2	0.3	1.0	1.0	0.3	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.055	0.2	0.3	1.0	1.0	0.3	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.060	0.2	0.3	1.0	1.0	0.3	0.1	-0.1	0.0	0.8	0.8	0.2	0.2
0.065	0.2	0.3	1.0	1.0	0.3	0.1	0.0	0.1	0.8	0.8	0.2	0.2
0.070	0.2	0.3	1.0	1.0	0.3	0.1	0.0	0.1	0.8	0.9	0.3	0.2
0.075	0.2	0.3	1.1	1.1	0.4	0.1	0.0	0.1	0.8	0.9	0.3	0.2
0.080	0.2	0.3	1.1	1.1	0.4	0.2	0.0	0.0	0.7	0.8	0.2	0.2
0.085	0.2	0.3	1.1	1.1	0.4	0.2	0.0	0.0	0.7	0.8	0.2	0.2
.												
.												
.												
19.900	1.5	15.7	43.6	55.4	51.3	31.2	-6.1	-27.4	-30.2	-23.5	-7.0	1.3
19.905	0.5	16.0	46.7	60.5	57.1	31.7	-14.7	-41.6	-45.0	-34.7	-10.2	1.9
19.910	-0.6	15.7	47.8	61.5	58.6	29.4	-23.8	-53.6	-55.4	-41.7	-11.6	2.7
19.915	-1.9	15.7	50.0	64.5	61.8	28.2	-31.8	-63.9	-63.5	-46.5	-12.1	3.7
19.920	-2.9	16.1	52.1	68.6	69.2	32.2	-35.4	-72.2	-72.3	-53.6	-14.0	4.4
19.925	5.5	9.6	-17.4	6.4	79.3	61.7	-19.9	-68.8	-74.8	-58.0	-15.9	4.9
19.930	8.2	-23.1	-118.3	-90.6	58.5	87.2	9.2	-48.3	-77.0	-69.1	-19.8	4.0
19.935	-3.2	-23.9	-62.1	-43.5	47.1	56.9	-23.9	-77.2	-100.1	-85.5	-26.3	3.7
19.940	-12.1	25.5	86.6	97.8	75.0	6.4	-80.1	-127.5	-121.0	-85.9	-26.1	4.4
19.945	-8.6	39.0	137.6	160.1	116.5	30.2	-88.4	-145.7	-137.1	-103.8	-29.8	8.0
19.950	-7.7	37.1	153.2	198.2	171.8	77.4	-87.5	-183.7	-193.3	-154.3	-56.8	2.7
19.955	-2.9	64.3	189.3	225.6	167.2	53.0	-89.0	-184.0	-199.7	-158.9	-68.8	-5.3
19.960	5.2	52.8	111.2	127.8	113.0	44.0	-57.7	-113.3	-108.9	-89.8	-42.8	-2.8
19.965	-2.0	8.4	16.6	30.1	65.9	50.4	-14.0	-46.1	-32.4	-31.1	-20.5	-0.5
19.970	5.3	19.6	36.3	39.3	32.6	16.1	-8.1	-21.2	-19.2	-19.0	-13.8	-3.2
MAXIMUM	118.4	627.2	1312.5	1692.6	1585.1	1678.7	1836.1	2030.8	1775.6	1400.5	634.4	102.8
@TIME	11.025	11.025	11.025	11.025	11.025	11.020	11.015	11.015	11.015	11.010	11.010	11.015
MINIMUM	-142.1	-563.4	-1559.8	-1784.3	-1885.5	-1970.9	-1997.4	-1634.9	-1198.8	-1104.1	-480.6	-155.3
@TIME	5.235	5.250	5.245	12.535	12.540	12.540	12.540	12.540	11.000	10.980	11.000	10.835

CEC JOB NO. 1101-004
BY DH DATE 3/16/01
CHECK Quinn DATE 3/16/01
CALC. NO. G(017)-2 REV. NO. 3
SHEET NO. 70

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	0.9	-0.1	-0.4	-0.4	-0.1	0.9	1.1	0.3	0.2
0.010	0.2	0.4	1.1	1.1	0.3	0.1	0.0	0.2	1.0	1.1	0.4	0.2
0.015	0.2	0.3	1.2	1.3	0.5	0.4	0.4	0.4	1.1	1.1	0.3	0.2
0.020	0.2	0.5	1.4	1.4	0.6	0.4	0.3	0.5	1.3	1.3	0.5	0.2
0.025	0.2	0.4	1.4	1.5	0.7	0.5	0.4	0.5	1.3	1.3	0.4	0.2
0.030	0.2	0.4	1.4	1.4	0.6	0.4	0.4	0.5	1.3	1.2	0.4	0.2
0.035	0.2	0.4	1.4	1.4	0.5	0.3	0.2	0.3	1.2	1.2	0.4	0.2
0.040	0.2	0.4	1.4	1.4	0.4	0.1	0.0	0.2	1.1	1.2	0.4	0.2
0.045	0.2	0.4	1.3	1.3	0.3	0.0	-0.1	0.1	1.0	1.1	0.3	0.2
0.050	0.2	0.4	1.3	1.3	0.3	0.0	-0.1	0.0	1.0	1.1	0.3	0.2
0.055	0.2	0.4	1.4	1.3	0.3	0.0	-0.1	0.1	1.1	1.2	0.3	0.2
0.060	0.2	0.4	1.4	1.4	0.4	0.0	-0.1	0.1	1.1	1.2	0.3	0.2
0.065	0.2	0.4	1.4	1.4	0.4	0.1	0.0	0.2	1.2	1.2	0.4	0.2
0.070	0.2	0.4	1.5	1.5	0.4	0.1	0.0	0.2	1.3	1.3	0.4	0.2
0.075	0.2	0.5	1.6	1.6	0.5	0.1	0.0	0.2	1.3	1.3	0.4	0.2
0.080	0.2	0.5	1.6	1.6	0.6	0.2	0.0	0.1	1.2	1.3	0.4	0.2
0.085	0.2	0.5	1.6	1.6	0.6	0.2	-0.1	0.1	1.2	1.3	0.4	0.2
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.												
.												
19.900	-0.2	7.8	20.5	30.8	39.0	23.6	-13.6	-40.0	-56.3	-48.2	-15.4	-0.4
19.905	-0.7	11.3	30.7	42.2	46.7	24.0	-21.9	-51.5	-63.9	-52.5	-16.9	-0.1
19.910	-1.2	14.7	41.5	55.0	56.7	27.1	-28.1	-61.9	-71.9	-58.1	-19.5	-0.1
19.915	-1.7	17.0	49.1	64.0	64.0	29.4	-33.0	-69.7	-76.5	-61.0	-21.0	0.1
19.920	-2.5	18.7	54.4	70.1	70.1	30.6	-39.9	-78.1	-78.9	-61.0	-20.8	1.1
19.925	-4.7	7.0	5.3	26.1	74.9	47.2	-30.1	-74.3	-73.0	-56.4	-18.9	2.7
19.930	-12.9	-33.1	-82.6	-61.4	35.1	44.7	-9.3	-43.1	-40.5	-33.2	-11.1	3.8
19.935	-19.0	-47.9	-89.6	-84.4	-17.8	-4.4	-38.9	-43.4	-15.4	-5.6	3.9	7.4
19.940	-11.5	-5.6	22.8	20.1	0.3	-39.7	-99.3	-107.9	-64.1	-29.0	-0.4	8.7
19.945	-2.9	37.8	119.1	137.5	96.3	8.5	-112.4	-168.2	-142.8	-95.3	-27.5	7.7
19.950	-3.5	31.4	97.9	146.8	177.4	101.9	-61.9	-157.5	-154.8	-118.6	-41.0	7.3
19.955	-10.0	26.3	111.8	153.7	172.5	117.4	-15.0	-90.9	-88.1	-70.2	-25.4	7.0
19.960	0.6	56.0	148.1	176.3	153.6	88.1	-5.6	-48.2	-28.1	-15.0	3.5	13.5
19.965	-1.3	29.3	89.2	122.1	121.1	76.2	0.3	-39.4	-22.6	-9.4	8.2	15.8
19.970	-7.0	-2.9	20.1	35.7	39.9	27.0	-0.8	-21.0	-23.4	-17.7	-3.9	4.3
MAXIMUM	124.3	652.6	1367.0	1802.7	1896.8	1963.7	1845.8	1961.7	1804.2	1528.3	702.1	100.8
@TIME	11.025	11.025	11.025	11.025	12.570	12.565	4.995	11.015	11.010	11.010	11.010	11.010
MINIMUM	-198.8	-725.3	-1578.4	-1734.6	-2305.3	-2504.7	-2478.6	-1987.9	-1830.3	-1646.4	-786.9	-183.1
@TIME	4.650	5.250	5.250	12.535	12.535	12.540	12.540	12.540	11.000	11.000	11.000	11.000

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. GL0027-2 REV. NO. 3
SHEET NO. 71

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.8	1.1	0.5	0.4	
0.005	-1.1	-0.4	1.3	1.2	-0.6	-0.5	-0.1	2.3	3.2	2.0	1.1	
0.010	-1.1	-0.7	0.7	0.8	-0.2	0.4	1.2	3.5	4.1	2.9	1.4	
0.015	-1.6	-1.2	0.3	0.9	0.6	1.7	2.3	4.0	4.1	2.6	1.3	
0.020	-2.5	-1.6	0.8	1.9	1.6	2.2	2.4	4.1	4.2	2.7	1.3	
0.025	-2.3	-1.5	1.0	2.2	2.0	2.3	2.2	4.0	4.2	2.9	1.5	
0.030	-1.4	-1.0	1.1	2.0	1.7	2.1	2.0	3.8	4.0	2.8	1.4	
0.035	-0.8	-0.5	1.4	2.1	1.5	1.5	1.4	3.3	3.8	2.7	1.4	
0.040	-0.3	-0.2	1.7	2.3	1.6	1.1	0.6	2.6	3.3	2.6	1.4	
0.045	0.0	0.0	1.8	2.4	1.7	0.9	0.0	2.0	2.8	2.2	1.3	
0.050	0.2	0.1	1.9	2.4	1.6	0.7	-0.4	1.7	2.6	2.2	1.3	
0.055	0.2	0.1	1.9	2.4	1.7	0.5	-0.6	1.6	2.6	2.3	1.4	
0.060	0.2	0.0	1.8	2.3	1.6	0.5	-0.7	1.6	2.6	2.3	1.5	
0.065	0.0	-0.3	1.6	2.3	1.7	0.5	-0.8	1.5	2.6	2.4	1.5	
0.070	-0.2	-0.5	1.5	2.2	1.7	0.5	-0.9	1.4	2.6	2.4	1.6	
0.075	-0.2	-0.6	1.3	2.1	1.7	0.4	-1.0	1.3	2.4	2.4	1.6	
0.080	-0.2	-0.6	1.3	2.0	1.6	0.2	-1.2	1.2	2.4	2.3	1.5	
0.085	-0.2	-0.6	1.3	2.0	1.5	0.0	-1.5	1.0	2.3	2.4	1.6	
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19.900	35.0	110.9	139.4	158.2	158.6	222.5	259.8	191.5	114.6	29.8	-8.4	
19.905	20.9	84.0	118.4	147.2	158.6	201.0	212.3	144.3	75.2	10.6	-11.6	
19.910	31.4	77.1	101.2	118.5	124.1	148.2	154.8	111.4	66.2	21.2	-2.2	
19.915	38.7	66.0	80.3	87.5	87.6	94.1	94.6	72.5	48.9	24.3	4.2	
19.920	31.3	42.4	54.1	63.0	65.2	46.7	28.6	19.3	11.8	12.7	6.2	
19.925	78.6	93.9	98.3	62.9	-65.6	-96.3	-30.1	-8.1	0.7	19.6	16.1	
19.930	203.1	262.4	232.1	55.1	-276.5	-340.9	-160.9	-43.3	19.8	59.9	39.1	
19.935	247.1	311.3	246.8	29.2	-293.4	-459.5	-382.9	-214.4	-69.6	37.0	39.6	
19.940	101.5	58.1	15.6	-50.1	-103.1	-322.6	-492.8	-423.6	-289.8	-127.0	-21.2	
19.945	-161.0	-272.6	-226.0	-140.6	-5.0	-88.5	-315.8	-386.4	-362.6	-293.2	-124.2	
19.950	-356.9	-408.1	-310.5	-193.0	-64.1	53.3	34.2	-46.7	-121.8	-207.3	-120.8	
19.955	-366.2	-416.6	-362.9	-250.4	-78.9	148.1	283.0	281.3	222.6	121.1	34.3	
19.960	-288.3	-359.8	-319.7	-197.8	-24.3	178.2	326.5	387.1	370.5	300.8	130.2	
19.965	-195.5	-195.1	-120.7	-35.3	53.2	117.6	179.0	254.2	249.0	195.0	86.6	
19.970	-53.7	-10.4	49.9	91.3	106.2	66.9	8.2	-8.1	-6.8	-2.3	0.5	
MAXIMUM	1647.7	1327.1	1351.4	1285.9	1205.7	1441.7	1758.7	1819.6	1386.3	880.5	357.3	
@TIME	4.680	10.815	10.820	5.245	10.810	10.370	10.365	5.065	5.060	5.355	5.355	
MINIMUM	-1581.7	-2006.5	-1817.4	-1749.2	-1813.7	-3083.1	-4075.8	-2229.6	-1833.8	-1030.2	-574.2	
@TIME	5.265	5.270	5.270	5.270	5.275	5.250	5.250	5.255	4.640	10.995	10.995	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 72

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.41	-0.13	0.00	0.10	0.41	0.00	-0.28	-0.02
0.010	0.00	0.28	0.00	-0.33	-0.10	0.00	0.10	0.33	0.00	-0.18	0.00
0.015	0.00	0.28	0.00	-0.25	-0.02	0.00	0.02	0.25	0.00	-0.25	0.00
0.020	0.10	0.31	0.00	-0.25	-0.07	0.00	0.02	0.28	0.00	-0.28	-0.08
0.025	0.08	0.31	0.00	-0.25	-0.07	0.00	0.02	0.28	0.00	-0.28	-0.08
0.030	0.08	0.28	0.00	-0.25	-0.05	0.00	0.02	0.25	0.00	-0.28	0.00
0.035	0.10	0.28	0.00	-0.28	-0.10	0.00	0.02	0.28	0.00	-0.25	0.00
0.040	0.10	0.28	0.00	-0.28	-0.07	0.00	0.02	0.28	0.00	-0.25	0.00
0.045	0.00	0.25	0.00	-0.28	-0.10	0.00	0.02	0.28	0.00	-0.18	0.00
0.050	0.00	0.28	0.00	-0.31	-0.10	-0.06	0.02	0.31	0.00	-0.18	0.00
0.055	0.02	0.28	0.00	-0.31	-0.10	-0.06	0.02	0.28	0.00	-0.18	0.00
0.060	0.00	0.28	0.00	-0.28	-0.07	-0.03	0.05	0.28	0.00	-0.18	0.00
0.065	0.00	0.28	0.00	-0.28	-0.07	0.00	0.05	0.28	0.00	-0.25	0.00
0.070	0.00	0.28	0.00	-0.28	-0.07	-0.06	0.05	0.28	0.00	-0.25	0.00
0.075	0.10	0.28	0.00	-0.28	-0.10	-0.06	0.05	0.28	0.00	-0.25	0.00
0.080	0.10	0.28	0.00	-0.25	-0.10	-0.06	0.02	0.25	0.00	-0.25	0.00
0.085	0.10	0.28	0.00	-0.25	-0.10	-0.06	0.02	0.25	0.00	-0.25	0.00
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19.900	5.95	10.12	4.28	-1.49	-8.52	-18.85	-8.99	-1.01	2.42	5.98	3.51
19.905	6.56	11.11	4.97	-1.25	-10.69	-23.44	-11.37	-1.25	3.72	8.90	5.07
19.910	6.91	11.59	4.99	-1.04	-12.38	-26.86	-12.57	-0.63	5.01	10.88	5.99
19.915	7.44	12.42	5.26	-0.96	-14.16	-30.30	-13.54	0.15	6.13	12.50	6.69
19.920	8.03	13.05	5.95	0.23	-15.56	-34.20	-15.52	-0.05	6.80	14.31	7.75
19.925	1.74	-9.81	8.61	26.41	-7.44	-41.22	-20.62	-2.17	6.11	15.27	8.75
19.930	-13.21	-34.49	10.02	54.05	12.15	-39.42	-24.24	-10.38	2.84	17.88	10.03
19.935	-8.75	-13.83	6.77	32.78	4.11	-40.86	-22.53	-8.27	5.27	21.41	12.64
19.940	15.90	22.15	4.08	-8.31	-28.92	-43.65	-19.96	2.32	12.73	21.64	12.90
19.945	20.08	35.71	8.15	-15.81	-36.40	-59.90	-24.23	3.13	12.07	26.79	15.97
19.950	18.90	41.98	16.31	-9.56	-39.84	-83.30	-40.60	-3.47	14.10	35.31	25.14
19.955	28.39	45.25	13.19	-21.15	-48.17	-71.73	-40.13	-5.68	14.77	32.61	26.85
19.960	20.07	21.21	5.97	-5.35	-29.15	-51.35	-23.44	1.59	6.92	17.01	16.86
19.965	4.37	3.00	4.93	12.97	-6.55	-32.50	-13.60	4.96	0.48	3.84	8.47
19.970	6.03	6.09	1.13	-2.37	-6.97	-12.24	-5.48	0.77	0.07	1.89	4.45
MAXIMUM	214.64	285.00	185.69	458.93	300.71	313.90	260.08	276.52	200.57	245.06	159.59
@TIME	11.025	4.720	11.020	5.245	11.015	4.965	4.965	12.540	12.540	10.980	10.980
MINIMUM	-202.52	-384.09	-192.32	-234.93	-311.92	-430.16	-190.52	-324.12	-196.74	-277.56	-226.57
@TIME	5.245	5.245	12.540	4.645	5.235	5.235	10.980	5.250	11.015	11.010	11.010

CEC JOB NO. 110/-000
BY DH DATE 3/14/01
CHECK DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 73

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.28	0.00	-0.37	-0.06	0.00	0.06	0.37	0.00	-0.28	-0.04
0.010	0.07	0.31	0.00	-0.31	-0.09	0.00	0.03	0.34	0.00	-0.23	-0.04
0.015	0.04	0.31	0.00	-0.26	-0.03	0.00	0.03	0.26	0.00	-0.28	0.00
0.020	0.14	0.38	0.00	-0.30	-0.03	0.00	0.03	0.30	0.00	-0.32	-0.14
0.025	0.14	0.38	0.00	-0.30	-0.06	0.00	0.03	0.30	0.00	-0.32	-0.14
0.030	0.14	0.35	0.00	-0.30	-0.03	0.00	0.03	0.30	0.00	-0.32	-0.04
0.035	0.14	0.35	0.00	-0.32	-0.12	0.00	0.03	0.32	0.00	-0.32	-0.07
0.040	0.14	0.32	0.00	-0.32	-0.16	-0.06	0.03	0.32	0.00	-0.32	-0.07
0.045	0.07	0.32	0.00	-0.35	-0.16	0.00	0.03	0.32	0.00	-0.27	-0.04
0.050	0.07	0.35	0.00	-0.39	-0.16	-0.06	0.06	0.39	0.00	-0.27	-0.07
0.055	0.07	0.35	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.27	-0.07
0.060	0.07	0.39	0.00	-0.39	-0.16	0.00	0.10	0.39	0.00	-0.30	-0.07
0.065	0.07	0.39	0.00	-0.39	-0.13	0.00	0.10	0.39	0.00	-0.32	-0.07
0.070	0.07	0.39	0.00	-0.39	-0.13	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.075	0.14	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.080	0.14	0.39	0.00	-0.36	-0.16	-0.06	0.10	0.36	0.00	-0.36	-0.07
0.085	0.14	0.39	0.00	-0.36	-0.16	-0.06	0.10	0.36	0.00	-0.36	-0.07
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19.900	3.37	4.58	3.71	3.00	-6.51	-18.75	-11.12	-5.95	2.92	11.91	6.30
19.905	5.04	7.03	4.14	1.64	-9.60	-23.22	-12.47	-4.53	4.12	12.90	7.05
19.910	6.69	9.68	4.95	0.59	-12.54	-27.88	-14.29	-3.62	5.05	13.99	8.18
19.915	7.87	11.61	5.39	-0.01	-14.54	-31.54	-15.44	-2.51	5.61	14.55	8.95
19.920	8.94	12.92	5.68	0.00	-16.63	-35.64	-16.18	-0.28	6.50	14.54	9.23
19.925	4.90	-0.62	7.54	17.66	-11.70	-39.07	-18.65	0.48	6.02	13.60	9.18
19.930	-8.54	-17.97	7.71	34.92	4.08	-27.30	-14.23	0.98	2.64	8.02	6.24
19.935	-12.19	-15.08	1.86	24.10	5.63	-17.48	-1.90	10.17	3.59	3.43	1.46
19.940	2.47	10.34	-0.99	-7.13	-16.92	-30.06	-3.64	15.89	12.69	10.35	3.88
19.945	17.14	29.42	6.69	-14.97	-37.03	-61.05	-23.56	9.18	17.20	24.57	14.86
19.950	14.78	24.06	17.73	11.08	-31.89	-82.76	-40.33	0.96	13.09	28.11	20.39
19.955	15.25	30.99	15.17	6.83	-23.30	-66.86	-32.06	1.03	6.46	16.21	13.69
19.960	23.31	33.35	10.20	-8.18	-27.70	-47.28	-17.99	7.29	4.79	6.71	4.21
19.965	12.89	21.74	11.92	-0.35	-18.98	-38.32	-16.77	6.05	4.76	6.39	3.24
19.970	1.73	8.38	5.68	1.55	-5.46	-14.04	-8.43	-0.85	2.03	5.01	3.48
MAXIMUM	222.90	330.91	194.81	420.27	326.52	324.66	264.42	355.82	249.71	311.40	254.80
@TIME	11.025	5.235	12.565	5.245	5.250	11.010	4.965	12.525	12.540	11.000	11.000
MINIMUM	-243.85	-309.07	-234.69	-364.01	-366.72	-457.85	-257.54	-297.04	-215.99	-299.29	-253.71
@TIME	5.250	5.250	12.540	12.530	4.640	4.640	11.000	12.560	11.015	11.010	11.010

CEC JOB NO. 11101-000
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 74

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.31	0.00	-0.46	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.23	0.67	0.00	-0.73	0.00	0.00	0.90	0.30	-0.43	-0.30
0.010	0.19	0.48	0.00	-0.35	0.19	0.30	0.84	0.30	-0.48	-0.41
0.015	0.08	0.54	0.30	-0.13	0.30	0.19	0.59	0.00	-0.54	-0.30
0.020	0.38	0.84	0.30	-0.13	0.19	0.00	0.59	0.00	-0.54	-0.41
0.025	0.34	0.87	0.44	-0.11	0.00	0.00	0.62	0.00	-0.45	-0.41
0.030	0.19	0.78	0.30	-0.13	0.02	0.00	0.59	0.00	-0.43	-0.41
0.035	0.11	0.73	0.30	-0.13	0.00	0.00	0.76	0.11	-0.39	-0.30
0.040	0.08	0.73	0.30	-0.17	-0.11	-0.11	0.78	0.30	-0.29	-0.30
0.045	0.08	0.70	0.28	-0.26	-0.22	-0.22	0.78	0.30	-0.13	-0.30
0.050	-0.04	0.68	0.22	-0.28	-0.28	-0.28	0.78	0.30	-0.13	-0.30
0.055	-0.09	0.68	0.22	-0.20	-0.30	-0.30	0.78	0.30	-0.13	-0.30
0.060	-0.11	0.68	0.22	-0.20	-0.30	-0.28	0.78	0.30	-0.13	-0.30
0.065	-0.11	0.70	0.30	-0.17	-0.41	-0.41	0.78	0.30	-0.13	-0.30
0.070	-0.11	0.73	0.30	-0.15	-0.41	-0.41	0.78	0.30	-0.11	-0.30
0.075	-0.14	0.68	0.30	-0.15	-0.41	-0.41	0.78	0.33	-0.06	-0.30
0.080	-0.17	0.68	0.30	-0.17	-0.41	-0.41	0.88	0.41	-0.03	-0.28
0.085	-0.19	0.68	0.30	-0.17	-0.41	-0.41	0.94	0.52	0.08	-0.28
0.090	-0.19	0.68	0.30	-0.17	-0.41	-0.41	0.96	0.56	0.10	-0.24
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19.900	28.95	10.34	6.80	0.21	16.58	9.70	-24.73	-27.82	-30.74	-11.28
19.905	24.09	12.45	10.38	4.13	11.04	2.92	-24.67	-25.00	-23.46	-6.65
19.910	17.42	8.72	6.29	2.03	6.23	1.75	-15.73	-16.38	-16.27	-6.92
19.915	10.41	5.19	2.57	0.08	1.62	0.13	-7.96	-8.55	-8.94	-5.98
19.920	4.22	4.23	3.21	0.81	-4.77	-4.72	-3.42	-2.72	0.34	-1.96
19.925	5.82	1.59	-12.86	-46.52	-7.98	17.20	7.94	3.19	6.87	-1.05
19.930	22.65	-10.94	-64.14	-120.13	-16.67	46.57	42.60	22.86	14.53	-6.12
19.935	24.56	-23.40	-78.83	-116.90	-43.04	19.87	61.08	52.45	38.65	0.73
19.940	-16.56	-15.44	-23.78	-19.20	-56.89	-44.08	25.10	48.46	58.99	31.39
19.945	-42.59	16.86	30.89	49.15	-21.63	-58.92	-25.62	8.67	25.13	50.16
19.950	-19.57	35.32	42.64	46.67	30.42	-4.95	-29.34	-27.15	-31.00	25.68
19.955	-19.18	19.51	40.71	62.13	58.81	34.96	-0.61	-21.26	-36.80	-25.75
19.960	-27.27	14.53	44.19	62.82	52.41	38.45	21.94	-6.02	-25.30	-50.59
19.965	0.12	26.89	30.94	32.09	16.72	15.93	27.21	-1.84	-19.61	-32.18
19.970	16.54	21.87	15.03	5.41	-10.21	-15.20	-5.89	0.45	1.64	0.82
MAXIMUM	287.26	628.06	286.79	495.27	230.82	316.38	797.27	576.45	395.28	207.69
@TIME	5.580	5.245	4.640	5.235	12.555	12.560	5.250	5.250	5.235	4.645
MINIMUM	-258.98	-363.63	-249.13	-442.88	-736.43	-330.55	-557.11	-180.82	-416.03	-167.03
@TIME	5.275	5.235	11.030	5.250	5.250	4.640	5.235	5.350	5.065	12.560

CEC JOB NO. 1101-001
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. 6(B013)-2 REV. NO. 3
SHEET NO. 75

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.2	-0.5	-0.5	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	1.0	0.9	0.1	-0.1	-0.2	0.0	0.8	0.9	0.3	0.2
0.015	0.2	0.2	1.0	1.0	0.3	0.2	0.2	0.2	0.9	0.9	0.2	0.2
0.020	0.2	0.4	1.2	1.3	0.5	0.2	0.2	0.3	1.1	1.1	0.3	0.2
0.025	0.2	0.3	1.2	1.3	0.5	0.4	0.3	0.4	1.1	1.1	0.3	0.2
0.030	0.2	0.3	1.1	1.2	0.5	0.4	0.3	0.3	1.0	1.0	0.2	0.2
0.035	0.2	0.3	1.2	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.040	0.2	0.3	1.1	1.2	0.3	0.1	0.0	0.1	0.9	1.0	0.3	0.2
0.045	0.2	0.3	1.1	1.1	0.3	0.1	0.0	0.1	0.9	0.9	0.2	0.2
0.050	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.9	0.9	0.2	0.2
0.055	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.9	0.9	0.3	0.2
0.060	0.2	0.3	1.1	1.1	0.3	0.1	0.0	0.1	0.9	0.9	0.2	0.2
0.065	0.2	0.3	1.1	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.070	0.2	0.3	1.2	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.075	0.2	0.3	1.2	1.3	0.5	0.3	0.1	0.2	1.0	1.0	0.3	0.2
0.080	0.2	0.4	1.3	1.3	0.5	0.3	0.1	0.1	0.9	0.9	0.3	0.2
0.085	0.2	0.4	1.2	1.3	0.5	0.3	0.1	0.1	0.9	0.9	0.2	0.2
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19.900	-0.8	9.3	36.7	48.3	42.7	21.6	-16.0	-35.8	-35.7	-26.2	-7.6	1.7
19.905	-1.4	9.9	39.4	51.6	46.4	21.6	-22.9	-46.9	-46.8	-35.6	-11.5	1.7
19.910	-1.7	13.0	46.8	59.8	52.9	21.4	-33.0	-62.4	-60.9	-45.3	-14.9	1.8
19.915	-2.0	15.3	52.5	66.4	58.9	22.5	-39.2	-72.3	-69.8	-52.1	-17.6	1.9
19.920	-2.3	17.3	58.3	73.2	65.3	26.1	-41.1	-77.1	-73.8	-55.5	-19.3	2.0
19.925	-3.5	20.9	76.4	93.2	74.0	26.3	-47.4	-85.5	-79.7	-58.9	-20.0	2.7
19.930	-5.5	24.1	92.2	112.0	82.9	26.5	-48.8	-91.9	-91.3	-68.8	-22.9	4.2
19.935	-6.7	21.6	87.7	109.1	85.7	31.5	-46.3	-91.0	-88.1	-67.5	-25.0	3.2
19.940	-1.3	28.3	79.7	99.4	95.5	45.4	-41.8	-87.7	-78.8	-58.8	-23.2	1.5
19.945	-0.2	37.2	92.1	119.8	142.3	86.8	-40.3	-108.1	-101.6	-81.3	-28.7	5.4
19.950	2.5	52.3	132.1	171.3	175.3	97.0	-49.4	-136.3	-137.6	-109.9	-41.2	4.4
19.955	4.1	56.4	134.6	161.7	138.4	59.5	-52.4	-121.8	-123.1	-92.3	-30.4	6.5
19.960	-10.8	10.4	59.9	81.0	84.1	39.5	-45.6	-85.0	-64.9	-38.9	0.9	15.9
19.965	-17.3	-15.6	14.8	36.1	55.3	29.6	-38.1	-63.7	-36.4	-15.6	8.8	15.5
19.970	-3.5	6.1	27.3	36.3	32.0	9.5	-23.8	-44.1	-42.7	-31.1	-11.1	0.9
MAXIMUM	134.3	525.1	1300.1	1548.6	1844.1	2160.5	2186.9	1967.6	1548.7	1279.0	475.0	128.3
@TIME	10.810	4.675	4.675	4.675	11.020	11.020	11.015	11.015	5.345	5.345	5.345	11.225
MINIMUM	-274.1	-707.0	-1644.0	-2063.4	-1948.1	-1904.6	-1904.7	-1580.0	-1165.9	-1166.1	-467.9	-172.8
@TIME	5.325	5.250	5.250	12.535	12.535	4.655	4.655	5.235	11.000	5.245	11.000	11.000

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK RWM DATE 3/16/01
CALC. NO. CLP017-2 REV. NO. 2
SHEET NO. 76

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	0.9	-0.1	-0.4	-0.4	-0.1	0.9	1.1	0.3	0.2
0.010	0.2	0.3	1.0	1.0	0.3	0.1	0.1	0.2	1.0	1.0	0.3	0.2
0.015	0.2	0.3	1.1	1.2	0.5	0.5	0.4	0.4	1.1	1.0	0.3	0.2
0.020	0.2	0.5	1.3	1.4	0.7	0.5	0.4	0.5	1.2	1.2	0.4	0.2
0.025	0.2	0.4	1.2	1.3	0.7	0.6	0.5	0.6	1.2	1.1	0.4	0.2
0.030	0.2	0.3	1.1	1.2	0.7	0.6	0.5	0.5	1.1	1.0	0.3	0.2
0.035	0.2	0.4	1.1	1.2	0.6	0.4	0.3	0.4	1.0	0.9	0.3	0.2
0.040	0.2	0.3	1.0	1.1	0.5	0.3	0.2	0.2	0.8	0.8	0.2	0.2
0.045	0.2	0.3	0.9	0.9	0.4	0.3	0.1	0.1	0.7	0.7	0.2	0.2
0.050	0.2	0.3	0.9	0.9	0.3	0.2	0.1	0.1	0.7	0.7	0.2	0.2
0.055	0.2	0.3	0.9	0.9	0.4	0.2	0.1	0.1	0.6	0.7	0.2	0.2
0.060	0.2	0.2	0.9	0.9	0.4	0.3	0.2	0.2	0.6	0.6	0.2	0.2
0.065	0.2	0.3	0.9	0.9	0.4	0.3	0.2	0.2	0.7	0.7	0.2	0.2
0.070	0.2	0.3	0.8	0.9	0.4	0.4	0.3	0.2	0.7	0.7	0.2	0.2
0.075	0.2	0.3	0.8	0.9	0.5	0.4	0.3	0.2	0.6	0.6	0.2	0.2
0.080	0.2	0.3	0.9	1.0	0.5	0.4	0.2	0.1	0.6	0.6	0.2	0.2
0.085	0.2	0.3	0.8	0.9	0.5	0.4	0.2	0.1	0.5	0.5	0.2	0.2
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19.900	2.7	21.5	64.9	75.0	51.3	21.4	-19.2	-36.8	-24.9	-14.8	-6.2	1.9
19.905	2.1	22.5	67.4	79.3	58.4	24.2	-25.0	-48.8	-39.6	-26.8	-10.3	1.9
19.910	1.3	21.9	65.8	79.5	63.9	28.3	-27.7	-56.5	-50.1	-36.2	-13.3	2.2
19.915	0.1	20.5	63.2	78.5	68.6	32.3	-29.6	-63.0	-59.2	-44.5	-15.8	2.6
19.920	-0.5	20.1	60.6	77.4	73.0	35.6	-31.1	-69.3	-69.8	-53.9	-18.6	2.8
19.925	-1.0	18.9	55.1	73.2	76.2	40.0	-29.9	-72.9	-79.6	-63.8	-21.9	2.6
19.930	-1.1	16.6	44.5	60.0	66.5	31.1	-35.5	-71.0	-55.1	-39.1	-18.7	1.6
19.935	-4.0	7.1	26.4	37.3	48.7	22.3	-33.2	-52.1	-23.5	-9.2	-1.6	5.8
19.940	-13.9	-2.6	39.7	63.3	84.7	53.4	-35.4	-75.0	-64.1	-45.5	-1.3	14.6
19.945	-15.6	20.4	106.1	151.8	162.9	83.6	-71.3	-153.9	-140.2	-100.6	-25.5	13.8
19.950	-2.8	50.2	135.0	176.7	170.8	77.9	-67.2	-157.1	-161.3	-121.5	-43.0	3.9
19.955	1.1	34.8	80.6	105.2	117.0	71.1	-20.4	-85.4	-108.0	-95.2	-36.7	1.3
19.960	-4.2	12.2	40.4	60.2	86.2	60.4	-15.4	-56.2	-55.7	-46.2	-10.1	8.7
19.965	-4.6	17.9	55.2	73.6	86.8	46.1	-39.0	-81.6	-72.1	-51.1	-8.7	10.9
19.970	2.8	24.3	54.3	66.6	55.6	16.0	-37.5	-79.3	-91.4	-71.3	-27.5	-0.5
MAXIMUM	113.1	937.4	1985.9	2083.0	2443.6	2569.5	2290.7	2089.5	1984.8	1416.5	518.7	113.7
@TIME	11.020	4.670	4.670	4.670	11.020	11.020	11.020	5.350	5.350	5.350	5.350	4.685
MINIMUM	-340.8	-1209.1	-2425.8	-2781.0	-2333.6	-2310.8	-2620.9	-2613.7	-2246.7	-1816.1	-666.2	-150.1
@TIME	4.660	4.660	4.660	4.660	12.530	12.530	12.520	12.520	4.645	4.645	4.645	11.000

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 2
SHEET NO. 77

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.8	1.1	0.5	0.4	
0.005	-1.0	-0.3	1.3	1.2	-0.7	-0.5	0.0	2.4	3.2	1.9	1.0	
0.010	-0.9	-0.3	0.8	0.7	-0.6	0.4	1.7	3.8	4.3	2.7	1.2	
0.015	-1.2	-0.7	0.5	0.7	0.0	1.8	3.2	4.7	4.4	2.5	1.1	
0.020	-2.0	-1.0	0.9	1.6	1.0	2.6	3.8	5.2	4.9	2.7	1.1	
0.025	-1.7	-0.6	1.3	2.0	1.4	3.0	4.2	5.5	5.1	2.9	1.2	
0.030	-0.6	0.3	1.7	2.0	1.2	3.1	4.6	5.8	5.2	2.8	1.1	
0.035	0.2	1.2	2.4	2.4	1.2	3.0	4.6	5.9	5.3	2.8	1.1	
0.040	0.9	1.9	3.0	2.9	1.5	3.1	4.5	5.7	5.1	2.7	1.0	
0.045	1.4	2.4	3.5	3.3	1.8	3.4	4.8	5.7	5.0	2.4	0.9	
0.050	1.8	2.9	3.8	3.5	2.0	3.7	5.2	6.0	5.1	2.4	0.8	
0.055	2.0	3.2	4.1	3.8	2.2	4.1	5.7	6.5	5.5	2.6	0.9	
0.060	2.1	3.4	4.4	4.1	2.5	4.6	6.3	7.0	5.8	2.8	0.9	
0.065	2.1	3.5	4.5	4.4	2.9	5.1	6.9	7.3	6.0	2.8	0.9	
0.070	2.1	3.6	4.7	4.6	3.2	5.5	7.3	7.7	6.2	2.8	0.8	
0.075	2.2	3.8	4.9	4.7	3.3	5.7	7.6	7.9	6.4	2.9	0.9	
0.080	2.3	3.9	5.0	4.8	3.4	5.8	7.8	8.1	6.5	3.0	0.9	
0.085	2.4	4.1	5.1	4.9	3.4	5.9	7.9	8.1	6.5	2.9	0.8	
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19.900	-80.9	-129.0	-105.3	-82.0	-59.8	-118.2	-175.1	-118.6	-62.7	-4.5	17.9	
19.905	-66.3	-103.3	-87.4	-73.0	-60.6	-107.0	-150.8	-103.0	-55.5	-8.7	12.2	
19.910	-31.3	-66.8	-70.1	-74.4	-76.4	-97.9	-110.3	-66.1	-28.3	0.8	11.1	
19.915	1.7	-30.4	-50.4	-69.4	-81.4	-79.1	-65.0	-27.8	-2.8	7.9	9.1	
19.920	24.4	4.1	-24.4	-50.7	-72.8	-48.9	-15.0	4.8	13.2	3.7	0.8	
19.925	51.0	23.2	-15.8	-44.3	-69.8	-13.3	46.9	43.7	27.9	-6.5	-11.6	
19.930	54.5	-29.3	-40.0	-43.8	-19.2	58.6	91.4	67.3	37.6	-12.7	-20.7	
19.935	85.5	-21.2	-37.7	-6.3	60.6	146.5	149.7	87.2	35.2	-27.5	-30.9	
19.940	170.4	164.1	120.6	95.6	98.0	178.4	213.3	145.6	69.3	-12.1	-24.6	
19.945	62.8	223.5	307.2	293.4	259.9	245.2	212.3	167.9	115.6	41.2	0.3	
19.950	-168.5	53.8	267.0	415.8	469.7	420.0	295.9	179.6	96.8	19.5	-10.3	
19.955	-204.2	-37.1	126.0	295.6	410.4	514.0	494.4	322.0	148.8	7.3	-25.1	
19.960	-144.9	-28.2	50.2	129.8	210.8	410.9	548.2	477.1	334.2	157.8	35.3	
19.965	-120.3	-55.9	-7.3	46.3	96.4	270.4	432.9	447.0	385.7	240.3	76.0	
19.970	-66.7	-68.5	-51.7	-5.3	59.5	182.1	270.0	253.0	193.8	107.6	30.8	
MAXIMUM	1668.0	1971.0	2194.7	1929.2	1951.3	1978.9	2634.8	3383.2	3070.9	1809.1	510.6	
@TIME	5.545	5.535	5.535	5.265	4.665	4.665	5.250	5.250	5.250	5.250	5.250	
MINIMUM	-1626.8	-1462.4	-1049.0	-1160.9	-1609.6	-1490.4	-2004.3	-1997.0	-2156.0	-1592.7	-1143.3	
@TIME	5.585	5.585	4.645	6.045	5.250	5.555	5.555	12.520	12.520	5.240	5.240	

CEC JOB NO. 1161-003
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(A)17-2 REV. NO. 3
SHEET NO. 78

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.41	-0.10	0.00	0.10	0.41	0.00	-0.28	-0.02
0.010	0.00	0.28	0.00	-0.33	-0.13	0.00	0.07	0.33	0.00	-0.20	0.00
0.015	0.00	0.28	0.00	-0.25	-0.02	0.00	0.02	0.25	0.00	-0.25	0.06
0.020	0.10	0.33	0.00	-0.28	-0.13	0.00	0.02	0.28	0.00	-0.31	-0.08
0.025	0.08	0.33	0.00	-0.25	-0.07	0.00	0.02	0.28	0.00	-0.28	-0.08
0.030	0.05	0.28	0.00	-0.25	-0.05	0.00	0.02	0.25	0.00	-0.25	0.00
0.035	0.10	0.31	0.00	-0.28	-0.10	0.00	0.02	0.28	0.00	-0.28	0.00
0.040	0.10	0.28	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.25	0.00
0.045	0.02	0.28	0.00	-0.30	-0.07	-0.06	0.02	0.28	0.00	-0.25	0.00
0.050	0.07	0.28	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.28	0.00
0.055	0.10	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.28	0.00
0.060	0.07	0.31	0.00	-0.33	-0.07	-0.03	0.02	0.33	0.00	-0.28	0.00
0.065	0.10	0.31	0.00	-0.33	-0.07	0.00	0.02	0.33	0.00	-0.28	0.00
0.070	0.10	0.33	0.00	-0.33	-0.07	0.00	0.02	0.33	0.00	-0.31	0.00
0.075	0.13	0.33	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.28	0.00
0.080	0.13	0.33	0.00	-0.30	-0.10	-0.06	0.02	0.30	0.00	-0.25	0.00
0.085	0.13	0.33	0.00	-0.30	-0.10	-0.06	0.02	0.30	0.00	-0.28	0.00
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19.900	4.29	9.91	4.21	-2.00	-8.92	-18.93	-8.39	0.03	3.45	6.75	3.93
19.905	4.82	10.68	4.43	-1.86	-10.44	-22.54	-10.10	0.03	4.08	8.76	5.56
19.910	6.23	12.27	4.67	-2.48	-13.23	-27.48	-12.38	0.52	5.63	10.99	7.07
19.915	7.29	13.51	5.02	-2.72	-15.38	-31.18	-13.97	0.87	6.40	12.51	8.24
19.920	8.25	14.85	5.37	-2.89	-16.52	-33.96	-15.16	1.18	6.61	13.18	8.96
19.925	10.35	20.05	6.08	-6.95	-20.15	-37.20	-16.04	2.09	7.52	14.08	9.62
19.930	12.46	24.73	7.18	-10.53	-23.81	-38.02	-18.24	0.23	8.10	16.62	11.46
19.935	11.91	23.98	7.75	-8.49	-22.84	-39.30	-18.89	1.04	7.47	15.38	11.93
19.940	12.50	18.61	7.12	-1.43	-21.17	-43.99	-19.42	3.25	7.30	12.92	10.45
19.945	15.80	19.89	10.02	8.18	-23.40	-64.18	-28.60	2.30	7.31	19.09	14.41
19.950	20.99	28.90	14.20	1.48	-33.06	-73.91	-36.68	-0.49	10.04	24.85	19.19
19.955	22.08	28.32	9.83	-8.42	-33.35	-56.53	-29.30	-0.47	11.13	22.45	15.63
19.960	8.96	17.92	7.63	1.13	-18.84	-42.99	-16.60	7.28	9.41	14.40	6.32
19.965	0.69	11.06	7.71	6.98	-10.84	-34.20	-10.77	9.83	7.51	8.86	2.87
19.970	4.07	7.74	3.25	-1.58	-9.50	-16.81	-8.59	0.52	4.20	7.27	5.13
MAXIMUM	200.57	296.12	216.60	493.28	363.52	349.77	288.98	301.32	210.14	262.04	160.42
@TIME	4.675	4.720	11.020	5.250	5.250	4.965	4.965	12.535	4.660	5.245	5.245
MINIMUM	-250.64	-348.42	-191.56	-296.08	-312.92	-393.95	-254.27	-404.89	-233.51	-300.53	-196.49
@TIME	5.250	12.535	4.655	4.650	4.645	5.235	5.245	5.245	11.020	12.415	5.345

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AMM DATE 3/16/01
CALC. NO. C(01-7)-2 REV. NO. 3
SHEET NO. 79

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.26	0.00	-0.40	-0.06	0.00	0.06	0.40	0.00	-0.26	-0.04
0.010	0.04	0.28	0.00	-0.28	-0.09	0.00	0.03	0.28	0.00	-0.23	0.00
0.015	0.00	0.28	0.00	-0.26	-0.03	0.00	0.03	0.26	0.00	-0.26	0.00
0.020	0.12	0.31	0.00	-0.26	-0.06	0.00	0.03	0.26	0.00	-0.28	-0.12
0.025	0.08	0.31	0.00	-0.26	-0.06	0.00	-0.01	0.22	0.00	-0.28	-0.08
0.030	0.08	0.28	0.00	-0.22	-0.06	0.00	-0.01	0.22	0.00	-0.28	-0.03
0.035	0.08	0.24	0.00	-0.22	-0.09	0.00	-0.01	0.24	0.00	-0.24	0.00
0.040	0.08	0.24	0.00	-0.19	-0.09	0.00	-0.01	0.22	0.00	-0.19	0.00
0.045	0.00	0.24	0.00	-0.19	-0.05	-0.06	-0.01	0.22	0.00	-0.19	0.03
0.050	0.08	0.24	0.00	-0.24	-0.05	-0.06	-0.01	0.24	0.00	-0.19	0.03
0.055	0.08	0.24	0.00	-0.24	-0.05	-0.06	-0.03	0.24	0.00	-0.22	0.03
0.060	0.08	0.24	0.00	-0.24	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.03
0.065	0.08	0.24	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.00
0.070	0.08	0.20	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.03
0.075	0.08	0.20	0.00	-0.18	-0.05	-0.06	-0.03	0.20	0.00	-0.20	0.03
0.080	0.08	0.20	0.00	-0.18	-0.05	-0.06	-0.03	0.20	0.00	-0.20	0.03
0.085	0.08	0.20	0.00	-0.15	-0.05	-0.06	-0.03	0.18	0.00	-0.15	0.03
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19.900	7.96	15.72	3.66	-8.56	-12.65	-20.44	-7.44	4.27	3.67	3.10	3.42
19.905	8.67	16.27	4.30	-7.60	-14.38	-24.85	-10.05	3.40	4.64	6.00	5.18
19.910	8.64	15.94	4.93	-5.59	-15.00	-28.24	-12.12	2.35	5.00	8.30	6.52
19.915	8.64	15.47	5.52	-3.58	-15.31	-31.28	-14.09	1.38	5.39	10.43	7.74
19.920	8.68	14.66	6.07	-1.57	-15.78	-33.70	-16.07	-0.18	5.78	12.81	8.98
19.925	8.42	13.13	6.54	1.06	-15.24	-35.28	-18.17	-2.41	5.71	15.23	10.33
19.930	7.40	10.12	5.62	2.37	-14.92	-33.65	-14.99	5.72	5.82	7.40	8.60
19.935	4.67	6.98	3.97	4.17	-11.13	-28.01	-8.00	10.36	5.21	2.72	3.16
19.940	4.77	15.29	8.54	7.74	-13.20	-44.89	-16.66	3.91	6.76	16.03	6.74
19.945	15.17	31.05	16.56	4.04	-33.46	-78.25	-34.79	4.93	14.34	27.28	16.65
19.950	22.35	30.69	15.13	-2.14	-39.25	-73.28	-37.94	-1.55	14.44	28.40	19.74
19.955	14.24	16.55	8.95	4.30	-19.41	-46.20	-27.53	-8.14	4.67	21.22	16.10
19.960	6.88	10.24	7.16	9.40	-10.91	-38.28	-17.18	0.20	3.44	13.02	7.93
19.965	9.50	13.51	6.66	4.76	-17.16	-42.98	-17.99	3.41	7.58	15.36	8.28
19.970	9.09	10.91	4.46	-3.96	-16.68	-27.07	-17.65	-4.41	7.27	15.90	11.46
MAXIMUM	347.91	379.88	291.35	667.10	395.38	388.67	305.41	446.28	330.04	416.59	252.05
@TIME	4.670	4.670	11.020	5.245	5.245	4.960	4.965	12.520	12.520	4.645	4.645
MINIMUM	-366.35	-530.59	-246.74	-383.64	-501.41	-615.33	-351.22	-452.95	-208.55	-325.29	-200.49
@TIME	4.660	5.245	4.655	4.650	4.670	12.520	4.645	5.245	11.020	5.350	5.350

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK BWM DATE 3/16/01
CALC. NO. 4(B017)-2 REV. NO. 2
SHEET NO. 80

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.31	0.00	-0.46	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.27	0.54	0.00	-0.73	0.00	0.08	0.77	0.30	-0.43	-0.30
0.010	0.19	0.38	0.00	-0.50	0.30	0.30	0.84	0.30	-0.54	-0.41
0.015	0.19	0.43	0.00	-0.24	0.54	0.30	0.51	0.00	-0.67	-0.30
0.020	0.38	0.67	0.30	-0.24	0.36	0.30	0.43	0.00	-0.84	-0.51
0.025	0.41	0.67	0.30	-0.24	0.41	0.30	0.43	-0.03	-0.84	-0.60
0.030	0.38	0.51	0.00	-0.29	0.52	0.41	0.43	-0.30	-0.87	-0.60
0.035	0.38	0.43	0.00	-0.48	0.52	0.41	0.43	-0.30	-0.87	-0.60
0.040	0.38	0.43	0.00	-0.50	0.41	0.36	0.43	-0.28	-0.87	-0.60
0.045	0.41	0.41	0.00	-0.52	0.41	0.41	0.41	-0.30	-0.98	-0.48
0.050	0.46	0.39	0.00	-0.52	0.41	0.41	0.25	-0.30	-1.03	-0.60
0.055	0.49	0.39	-0.06	-0.52	0.49	0.41	0.22	-0.30	-1.06	-0.60
0.060	0.49	0.41	0.00	-0.50	0.52	0.41	0.17	-0.30	-1.08	-0.60
0.065	0.49	0.43	0.00	-0.48	0.52	0.41	0.15	-0.52	-1.13	-0.60
0.070	0.62	0.43	0.00	-0.48	0.61	0.44	0.15	-0.60	-1.26	-0.60
0.075	0.62	0.43	0.00	-0.48	0.69	0.47	0.15	-0.60	-1.28	-0.60
0.080	0.62	0.41	0.00	-0.48	0.69	0.49	0.15	-0.60	-1.28	-0.60
0.085	0.64	0.41	0.00	-0.53	0.71	0.52	0.15	-0.60	-1.28	-0.60
0.090	0.66	0.41	0.00	-0.56	0.71	0.52	0.10	-0.60	-1.28	-0.60
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19.900	-18.39	8.57	8.45	8.01	-15.11	-14.72	20.52	20.26	21.10	6.63
19.905	-14.17	5.80	5.20	4.54	-12.03	-11.35	17.31	17.24	16.99	6.16
19.910	-13.54	-1.21	-1.56	-0.78	-5.56	-3.19	16.04	13.67	10.56	3.09
19.915	-12.24	-7.31	-6.93	-4.33	0.57	3.71	13.46	9.05	3.90	0.31
19.920	-7.74	-10.29	-9.53	-8.01	6.20	8.79	7.13	3.06	-3.41	-0.87
19.925	-10.61	-14.18	-10.34	-9.19	14.61	15.56	-1.19	-5.68	-12.46	-1.51
19.930	-31.95	-3.92	-1.38	8.90	20.16	8.51	-8.74	-10.71	-18.22	-2.34
19.935	-40.76	-5.94	11.35	24.27	22.26	0.82	-22.62	-18.85	-22.67	-1.01
19.940	-2.39	-15.75	-9.05	0.87	20.84	8.99	-24.50	-27.70	-29.52	-3.71
19.945	61.37	30.34	-5.00	-12.16	-3.81	-8.55	-16.07	-18.99	-26.98	-12.15
19.950	84.85	77.25	53.89	19.56	-12.86	-32.17	-42.16	-30.00	-28.00	-8.83
19.955	63.83	59.13	61.38	41.59	26.84	-5.16	-62.47	-62.75	-51.28	-9.65
19.960	44.59	28.42	28.85	29.33	51.84	35.59	-25.70	-51.76	-63.89	-36.35
19.965	24.58	17.61	19.47	18.15	45.08	42.10	5.07	-22.15	-52.72	-48.72
19.970	-0.67	6.09	16.83	23.47	31.76	22.81	-6.16	-21.48	-31.22	-22.84
MAXIMUM	437.80	336.46	256.71	429.04	362.92	736.61	420.70	310.56	389.53	241.09
@TIME	5.265	5.580	5.585	12.545	5.250	5.250	5.555	5.555	12.520	12.520
MINIMUM	-235.22	-291.11	-317.07	-617.92	-462.57	-283.47	-490.73	-353.33	-768.69	-385.32
@TIME	10.815	4.970	5.250	5.250	5.555	12.520	12.520	5.245	5.245	5.250

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK aum DATE 3/16/01
CALC. NO. G(P17)-2 REV. NO. 3
SHEET NO. 8

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.2	-3.3	-18.7	-16.2	4.6	12.4	12.4	4.6	-16.2	-18.7	-3.3	0.2
0.005	-2.7	-9.0	-7.0	-5.7	-7.2	-3.5	-3.5	-7.2	-5.7	-7.0	-9.0	-2.7
0.010	-2.3	4.3	33.1	25.1	-19.3	-40.0	-40.0	-19.3	25.1	33.0	4.3	-2.3
0.015	-0.9	2.2	5.0	3.5	-0.9	-5.5	-5.5	-0.9	3.4	5.0	2.2	-0.9
0.020	-2.8	-11.2	-17.4	-9.5	7.9	20.0	20.0	7.8	-9.6	-17.4	-11.2	-2.9
0.025	1.0	4.5	8.1	5.7	-1.8	-7.1	-7.2	-1.9	5.6	8.0	4.4	0.9
0.030	1.7	4.3	5.0	1.5	-3.3	-5.6	-5.6	-3.4	1.4	4.9	4.3	1.7
0.035	0.7	-0.3	-1.7	-1.4	-0.1	1.4	1.4	-0.2	-1.4	-1.7	-0.3	0.7
0.040	1.1	4.1	6.8	5.2	1.0	-1.6	-1.6	0.9	5.2	6.8	4.1	1.1
0.045	-0.3	-0.1	1.8	3.5	4.0	4.4	4.4	4.0	3.5	1.8	-0.1	-0.3
0.050	-0.1	-0.3	0.2	1.7	3.6	4.9	4.9	3.6	1.7	0.2	-0.3	-0.1
0.055	0.2	1.5	3.5	3.4	1.5	0.2	0.2	1.5	3.3	3.4	1.5	0.2
0.060	0.0	0.0	0.1	0.7	1.5	1.9	1.9	1.4	0.6	0.0	-0.1	0.0
0.065	0.1	0.0	0.0	0.2	0.5	0.9	0.8	0.4	0.1	0.0	0.0	0.1
0.070	0.1	0.6	0.8	0.4	-0.6	-1.4	-1.4	-0.7	0.3	0.8	0.5	0.1
0.075	-0.3	-0.9	-1.3	-1.3	-0.9	-0.4	-0.5	-0.9	-1.3	-1.4	-0.9	-0.3
0.080	-0.2	-0.7	-1.2	-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1.2	-0.7	-0.2
0.085	-0.2	-0.3	-0.4	-0.9	-1.6	-1.9	-2.0	-1.7	-1.0	-0.5	-0.3	-0.2
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19.900	8.1	20.7	26.2	29.6	28.5	12.8	-6.7	-27.8	-41.8	-39.1	-22.7	-7.5
19.905	8.2	20.1	23.1	26.3	27.5	12.5	-7.2	-29.7	-46.2	-43.5	-24.3	-7.8
19.910	8.0	19.0	20.2	23.1	25.6	11.4	-7.9	-30.4	-48.2	-45.3	-24.8	-7.9
19.915	7.6	17.6	17.8	20.6	23.8	10.4	-8.2	-30.4	-48.5	-45.7	-24.7	-7.7
19.920	6.9	15.9	15.6	18.3	21.6	9.2	-8.3	-29.4	-47.1	-44.4	-23.8	-7.5
19.925	6.1	14.0	13.6	15.9	19.0	7.7	-8.2	-27.4	-44.0	-41.4	-22.2	-7.0
19.930	5.1	11.6	11.1	13.1	15.9	6.1	-7.8	-24.7	-39.5	-37.3	-20.0	-6.3
19.935	4.0	9.1	8.6	10.4	12.6	4.5	-7.0	-21.4	-34.7	-32.8	-17.2	-5.4
19.940	2.8	6.6	6.9	8.2	9.3	2.8	-6.4	-18.0	-29.7	-28.0	-14.3	-4.3
19.945	1.5	3.8	3.9	4.7	5.0	0.4	-5.9	-14.1	-22.4	-20.9	-10.5	-3.1
19.950	2.6	6.4	9.8	10.7	8.4	0.8	-7.8	-16.4	-21.4	-18.9	-10.1	-3.4
19.955	8.3	23.1	37.2	41.6	32.3	11.1	-11.0	-32.3	-43.0	-38.0	-22.0	-7.6
19.960	9.4	31.4	54.3	61.9	47.5	20.1	-8.2	-37.7	-56.3	-52.6	-31.7	-10.0
19.965	1.0	8.0	18.9	22.5	16.1	7.3	-1.8	-11.3	-17.4	-17.8	-12.3	-4.0
19.970	-5.1	-18.0	-31.4	-35.8	-28.2	-13.8	1.1	17.4	28.7	26.3	13.4	2.9
MAXIMUM	124.3	367.6	675.6	795.7	686.8	639.5	687.1	776.0	749.4	545.6	250.5	66.1
@TIME	4.630	4.635	4.635	4.635	4.635	5.270	11.335	11.335	11.335	11.335	11.335	11.330
MINIMUM	-42.2	-242.1	-703.9	-730.6	-457.1	-455.0	-454.0	-403.9	-739.2	-852.9	-351.7	-60.1
@TIME	5.300	5.275	5.275	5.280	5.280	11.005	8.225	8.225	5.270	5.270	5.270	5.270

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 2
SHEET NO. 82

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	3.0	2.5	4.8	3.1	-2.1	-2.7	-2.7	-2.1	3.1	4.8	2.5	3.0
0.005	6.6	-7.2	-44.8	-38.6	12.0	35.6	35.6	12.0	-38.6	-44.8	-7.2	6.6
0.010	-2.8	-32.4	-73.6	-54.5	17.7	60.6	60.6	17.7	-54.6	-73.6	-32.4	-2.8
0.015	0.7	3.5	14.2	12.1	-4.7	-11.7	-11.8	-4.9	11.9	14.1	3.5	0.8
0.020	7.9	26.7	34.0	18.0	-9.7	-29.8	-30.0	-10.0	17.7	33.8	26.6	8.0
0.025	-3.5	-15.4	-23.2	-16.2	1.0	14.4	14.3	0.7	-16.6	-23.5	-15.4	-3.4
0.030	-0.2	-3.2	-6.2	-5.7	-3.8	-3.0	-3.1	-4.0	-5.9	-6.4	-3.2	-0.2
0.035	2.1	9.8	14.9	7.2	-6.8	-15.3	-15.4	-6.9	7.2	14.9	9.9	2.1
0.040	-1.9	-6.6	-7.8	-2.5	4.5	8.6	8.5	4.4	-2.6	-7.8	-6.6	-1.9
0.045	-0.1	-1.4	-2.6	-0.7	4.2	7.8	7.7	4.0	-0.9	-2.7	-1.4	-0.1
0.050	1.0	4.7	9.0	7.5	1.1	-3.4	-3.5	0.9	7.3	8.9	4.7	1.0
0.055	0.0	-0.7	-1.1	0.4	3.2	5.0	4.9	2.9	0.2	-1.2	-0.7	0.1
0.060	-0.4	-1.4	-1.3	0.0	1.6	3.0	2.9	1.3	-0.3	-1.4	-1.4	-0.3
0.065	0.6	2.1	3.3	2.1	-1.0	-3.2	-3.3	-1.2	1.9	3.2	2.1	0.7
0.070	0.0	-0.3	-0.1	-0.3	-0.5	-0.1	-0.3	-0.7	-0.4	-0.2	-0.3	0.0
0.075	0.1	-0.4	-0.4	0.0	0.1	0.2	0.1	-0.1	-0.2	-0.5	-0.3	0.1
0.080	0.3	1.0	2.2	1.5	-0.4	-1.2	-1.3	-0.6	1.3	2.1	1.0	0.4
0.085	0.2	0.2	0.8	0.8	0.0	-0.3	-0.4	-0.2	0.7	0.7	0.2	0.2
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19.900	-17.4	5.9	69.1	99.5	110.0	53.9	-62.8	-115.2	-95.2	-62.1	-3.5	18.8
19.905	-19.1	2.9	65.7	96.1	107.4	51.4	-65.5	-116.8	-94.8	-60.4	-1.4	19.6
19.910	-20.0	0.1	60.8	90.9	102.9	48.5	-65.4	-114.5	-91.9	-57.4	0.5	19.9
19.915	-20.2	-2.5	54.8	84.0	96.6	45.6	-62.7	-108.6	-86.1	-52.8	2.3	19.7
19.920	-19.7	-4.4	48.4	76.0	88.6	41.9	-58.1	-99.8	-77.9	-46.5	4.2	19.0
19.925	-18.5	-5.9	41.3	66.7	78.9	37.7	-51.4	-88.2	-67.8	-39.3	5.8	17.8
19.930	-16.8	-7.2	33.5	56.0	67.5	32.9	-43.3	-74.3	-56.1	-31.2	7.1	16.2
19.935	-14.6	-8.0	25.6	44.6	54.8	27.2	-34.9	-59.3	-43.0	-22.2	8.4	14.3
19.940	-11.4	-8.1	16.6	31.3	38.7	19.2	-24.8	-41.4	-27.9	-11.9	9.3	11.6
19.945	-7.9	-8.8	5.0	14.0	18.8	9.5	-13.7	-20.7	-9.9	0.1	10.4	8.7
19.950	-23.8	-13.7	39.2	56.7	73.1	46.1	-39.4	-63.3	-35.4	-16.7	14.2	18.8
19.955	-21.2	16.5	118.0	169.2	179.9	99.6	-64.1	-142.2	-124.0	-82.0	-6.2	21.9
19.960	3.9	44.7	118.6	159.9	137.8	66.0	-29.1	-101.5	-120.5	-93.3	-29.7	6.1
19.965	0.9	-2.2	-1.2	-5.7	-16.7	-12.4	2.1	11.6	17.9	16.1	9.5	5.2
19.970	-8.3	-44.3	-89.1	-107.0	-86.5	-43.6	3.3	53.3	88.8	84.5	45.9	10.8
MAXIMUM	79.8	439.9	1206.6	1760.0	1708.3	1350.9	1569.8	1607.2	1489.0	1032.4	377.8	116.5
@TIME	4.635	4.635	4.635	4.635	4.635	4.635	11.330	11.330	11.335	11.335	5.280	5.280
MINIMUM	-376.4	-669.9	-1620.2	-1497.5	-1095.4	-1155.0	-1342.6	-1216.6	-1546.6	-1434.1	-553.8	-135.3
@TIME	4.625	5.275	5.275	5.275	10.855	10.855	11.005	5.260	5.265	5.270	5.270	10.980

CEC JOB NO. 11601-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. CL(B017)-2 REV. NO. 3
SHEET NO. 83

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	3.8	10.1	18.6	24.2	14.7	-75.9	-102.5	-5.3	37.5	86.9	68.7	
0.005	26.3	30.8	17.8	-23.6	-86.4	-111.7	-72.0	65.1	127.9	9.3	-32.9	
0.010	16.8	-34.9	-113.7	-181.9	-177.4	89.8	283.1	209.3	70.0	-176.8	-156.7	
0.015	-108.2	-179.8	-202.8	-132.6	22.5	242.5	345.7	241.4	107.6	49.6	22.2	
0.020	-189.2	-150.3	-46.3	79.3	166.9	169.9	166.4	225.7	266.2	223.9	89.7	
0.025	-74.6	9.9	77.6	103.4	105.6	136.9	175.5	167.5	119.9	57.9	14.3	
0.030	23.6	43.8	53.8	73.9	109.2	138.0	112.0	42.6	-11.9	-30.4	-14.7	
0.035	22.7	41.8	72.6	99.9	103.7	60.5	12.2	2.3	1.1	-7.0	-6.3	
0.040	48.4	73.6	79.9	61.6	32.8	13.8	6.6	3.0	2.5	5.2	3.7	
0.045	55.7	45.8	27.1	11.8	6.4	11.3	13.2	9.8	5.1	-4.4	-4.9	
0.050	24.4	8.9	1.3	1.4	4.2	9.8	13.5	10.8	5.2	1.7	0.8	
0.055	15.2	9.7	3.8	-0.7	-1.4	4.2	7.8	8.5	9.5	5.8	1.4	
0.060	9.4	9.7	6.9	3.1	-0.3	-0.1	3.9	7.0	5.5	3.2	1.6	
0.065	-6.5	-1.0	3.8	5.8	5.5	4.0	1.0	0.2	1.3	1.3	0.6	
0.070	-15.2	-11.8	-5.8	0.9	5.6	4.8	2.3	2.0	0.2	-0.1	0.6	
0.075	-12.7	-14.1	-12.7	-9.4	-5.4	0.4	4.5	6.3	6.5	4.8	2.1	
0.080	-5.6	-10.3	-14.2	-15.6	-13.8	-6.8	2.1	8.4	9.8	8.5	4.3	
0.085	-1.9	-6.6	-11.0	-14.1	-15.3	-11.3	-4.5	2.0	5.9	6.2	3.2	
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19.900	33.7	42.2	45.4	39.8	23.3	-22.7	-40.4	-5.8	17.4	40.1	28.6	
19.905	40.6	41.2	33.5	14.4	-17.7	-88.7	-115.5	-65.7	-22.2	25.9	27.9	
19.910	42.7	35.3	17.1	-14.1	-59.0	-146.9	-178.6	-116.6	-56.3	11.5	25.5	
19.915	39.5	24.4	-3.0	-43.6	-96.9	-192.6	-224.6	-154.5	-82.9	-1.7	22.0	
19.920	30.3	8.7	-25.2	-71.0	-127.5	-222.5	-251.4	-177.9	-100.3	-12.5	17.9	
19.925	16.3	-9.7	-46.8	-93.6	-148.5	-236.3	-259.7	-186.3	-108.0	-20.0	14.0	
19.930	0.5	-27.8	-65.2	-109.7	-159.8	-235.8	-252.1	-181.6	-106.4	-23.2	10.9	
19.935	-14.6	-43.1	-78.4	-118.3	-161.5	-224.4	-233.6	-167.4	-98.0	-22.0	9.5	
19.940	-27.0	-53.8	-85.5	-119.9	-155.8	-205.1	-207.9	-147.2	-84.8	-19.0	8.3	
19.945	-35.7	-60.2	-88.2	-117.3	-145.9	-179.3	-175.0	-121.8	-69.3	-16.9	6.0	
19.950	-42.0	-64.3	-88.6	-111.5	-130.6	-144.0	-134.8	-102.5	-61.3	-9.6	9.4	
19.955	-47.2	-65.7	-83.6	-97.9	-107.6	-112.8	-103.6	-74.5	-42.6	-5.8	8.7	
19.960	-47.9	-60.6	-72.7	-83.5	-92.5	-94.7	-76.9	-34.2	-8.6	0.8	5.7	
19.965	-44.4	-56.3	-70.1	-83.0	-89.3	-69.3	-37.5	-4.3	14.2	16.7	11.3	
19.970	-48.4	-62.5	-74.5	-78.3	-70.2	-37.6	-2.9	16.0	22.5	16.9	7.1	
MAXIMUM	2463.6	2501.3	2340.7	1873.8	1555.5	1591.0	1940.6	1947.0	1428.1	633.6	366.7	
@TIME	5.275	5.275	5.270	5.270	6.015	6.010	5.075	5.075	5.070	11.530	10.855	
MINIMUM	-572.5	-644.0	-892.7	-1249.7	-2062.7	-4110.5	-4909.1	-2781.5	-2641.1	-1128.4	-614.5	
@TIME	12.555	5.300	5.300	5.295	5.280	5.275	5.270	5.265	5.260	12.480	10.765	

CEC JOB NO. 1101-006
BY DH DATE 3/15/01
CHECK Quinn DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 84

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-1.43	-5.61	0.92	7.48	3.34	0.00	-3.34	-7.48	-0.92	5.61	1.43
0.005	-2.65	0.72	0.47	-0.54	1.59	0.00	-1.59	0.54	-0.47	-0.72	2.65
0.010	2.78	10.39	-2.90	-16.07	-8.78	0.00	8.78	16.07	2.90	-10.39	-2.78
0.015	1.33	0.96	-0.55	-1.58	-1.90	0.00	1.90	1.58	0.55	-0.96	-1.33
0.020	-3.51	-2.23	2.83	6.28	5.11	0.00	-5.11	-6.33	-2.83	2.28	3.56
0.025	1.47	1.28	-0.86	-2.68	-2.30	0.00	2.23	2.68	0.86	-1.28	-1.47
0.030	1.11	0.20	-1.27	-1.75	-0.93	0.00	0.90	1.75	1.27	-0.20	-1.11
0.035	-0.47	-0.47	0.12	0.47	0.66	0.00	-0.66	-0.47	-0.12	0.47	0.47
0.040	1.26	0.95	-0.56	-1.53	-1.06	0.00	1.06	1.53	0.56	-0.95	-1.26
0.045	0.07	0.69	0.62	0.20	0.11	0.00	-0.14	-0.20	-0.57	-0.69	-0.07
0.050	-0.05	0.19	0.49	0.70	0.53	0.00	-0.58	-0.70	-0.49	-0.19	0.05
0.055	0.56	0.71	-0.03	-0.67	-0.54	0.00	0.51	0.67	0.03	-0.71	-0.56
0.060	-0.02	0.05	0.26	0.29	0.21	0.00	-0.26	-0.29	-0.21	-0.02	0.07
0.065	-0.03	0.02	0.06	0.09	0.12	0.00	-0.19	-0.12	-0.06	-0.02	0.06
0.070	0.16	0.11	-0.16	-0.40	-0.34	0.00	0.34	0.40	0.16	-0.11	-0.16
0.075	-0.23	-0.16	0.02	0.16	0.16	0.00	-0.16	-0.16	-0.02	0.16	0.29
0.080	-0.22	-0.14	-0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.22
0.085	-0.05	0.00	-0.18	-0.24	-0.14	0.00	0.14	0.24	0.18	0.00	0.05
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19.900	5.31	2.02	1.29	-0.44	-6.66	-9.83	-8.92	-5.06	0.96	5.90	6.41
19.905	5.03	1.07	1.14	0.42	-6.35	-9.99	-9.47	-6.01	0.98	6.95	7.00
19.910	4.64	0.43	1.03	0.90	-5.99	-9.79	-9.52	-6.41	1.03	7.41	7.15
19.915	4.22	0.10	1.01	1.19	-5.63	-9.40	-9.36	-6.58	1.04	7.61	7.12
19.920	3.83	-0.08	0.96	1.20	-5.24	-8.89	-8.93	-6.45	0.99	7.44	6.89
19.925	3.30	-0.11	0.84	1.11	-4.77	-8.07	-8.07	-6.00	0.89	6.98	6.42
19.930	2.74	-0.20	0.74	1.02	-4.10	-7.06	-7.09	-5.38	0.80	6.29	5.81
19.935	2.18	-0.14	0.65	0.84	-3.40	-5.88	-6.08	-4.77	0.71	5.64	5.00
19.940	1.64	0.03	0.50	0.38	-2.72	-4.62	-4.94	-4.24	0.66	4.95	4.20
19.945	0.95	0.07	0.29	0.07	-1.95	-3.23	-3.41	-3.05	0.58	3.76	3.10
19.950	1.59	1.23	0.31	-0.85	-3.19	-4.33	-3.61	-1.79	0.95	3.17	2.85
19.955	6.26	5.12	1.57	-3.36	-9.03	-11.16	-8.94	-3.85	1.80	5.82	6.08
19.960	9.31	8.26	2.75	-5.24	-11.59	-14.34	-12.41	-6.75	1.28	7.60	9.09
19.965	2.93	4.00	1.27	-2.33	-3.74	-4.50	-4.05	-2.22	-0.14	2.01	3.50
19.970	-5.42	-4.83	-1.64	2.79	6.06	7.53	6.87	4.09	-0.92	-4.63	-4.45
MAXIMUM	106.37	111.64	65.18	216.88	132.77	116.67	85.25	75.91	50.75	181.58	123.00
@TIME	4.635	4.635	5.270	5.270	5.275	5.280	5.280	11.005	8.225	5.270	5.270
MINIMUM	-89.90	-167.32	-51.91	-60.22	-75.24	-107.76	-201.81	-262.47	-73.84	-106.89	-81.91
@TIME	5.275	5.275	11.005	12.480	5.260	5.265	5.270	5.270	11.335	11.335	11.335

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(P07)-2 REV. NO. 3
SHEET NO. 85

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-0.17	0.81	-0.65	-1.87	-0.21	0.00	0.21	1.87	0.65	-0.81	0.17
0.005	-5.84	-13.59	2.24	18.32	9.94	0.00	-9.94	-18.32	-2.24	13.59	5.84
0.010	-12.45	-14.92	6.89	26.17	18.11	0.00	-18.11	-26.14	-6.89	14.92	12.45
0.015	1.17	3.83	-0.76	-6.06	-2.97	-0.03	2.92	6.06	0.82	-3.80	-1.17
0.020	7.94	2.68	-5.79	-10.07	-8.46	-0.06	8.43	9.98	5.82	-2.55	-7.89
0.025	-5.02	-2.83	2.56	6.26	5.63	-0.06	-5.74	-6.26	-2.56	2.95	5.11
0.030	-1.22	-1.10	0.18	0.67	0.41	0.00	-0.44	-0.65	-0.18	1.15	1.26
0.035	3.28	1.87	-2.80	-5.10	-3.57	0.00	3.57	5.10	2.83	-1.87	-3.28
0.040	-2.00	-0.41	1.88	2.52	1.77	0.00	-1.77	-2.52	-1.83	0.43	2.00
0.045	-0.58	-0.40	0.66	1.78	1.52	0.00	-1.55	-1.78	-0.61	0.46	0.64
0.050	1.57	1.56	-0.56	-2.32	-1.87	-0.06	1.83	2.32	0.56	-1.56	-1.57
0.055	-0.31	-0.19	0.53	1.04	0.77	-0.06	-0.87	-1.01	-0.50	0.19	0.35
0.060	-0.40	0.09	0.49	0.60	0.58	-0.06	-0.66	-0.60	-0.42	0.03	0.45
0.065	0.60	0.45	-0.47	-1.09	-0.92	-0.06	0.84	1.15	0.47	-0.43	-0.60
0.070	-0.13	0.06	-0.08	-0.10	0.12	-0.06	-0.20	0.10	0.08	-0.04	0.13
0.075	-0.24	0.01	0.10	0.05	0.06	0.00	-0.06	-0.05	-0.10	0.05	0.24
0.080	0.27	0.46	-0.27	-0.70	-0.33	-0.06	0.27	0.70	0.27	-0.40	-0.27
0.085	-0.04	0.21	-0.05	-0.28	-0.16	0.00	0.16	0.30	0.05	-0.16	0.04
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19.900	9.87	22.93	11.01	3.76	-23.67	-58.95	-22.10	7.25	11.98	21.21	9.42
19.905	9.28	22.75	11.02	4.10	-23.68	-59.09	-21.61	7.93	12.42	21.39	8.89
19.910	8.48	21.97	10.94	4.34	-22.96	-57.53	-20.67	8.21	12.51	20.98	8.24
19.915	7.42	20.72	10.61	4.63	-21.50	-54.68	-19.40	8.15	12.08	19.97	7.31
19.920	6.44	19.18	10.00	4.56	-19.75	-50.51	-17.61	7.95	11.42	18.34	6.25
19.925	5.28	17.15	9.15	4.44	-17.42	-45.05	-15.46	7.36	10.31	16.35	5.11
19.930	4.04	14.72	8.15	4.23	-14.60	-38.51	-13.08	6.60	8.99	13.88	3.89
19.935	2.81	12.17	6.93	3.69	-11.67	-31.37	-10.32	5.89	7.52	11.12	2.48
19.940	1.39	8.91	5.31	2.66	-8.22	-22.22	-7.01	4.84	5.85	7.67	0.94
19.945	-0.38	5.07	3.25	1.76	-3.96	-11.68	-2.99	3.87	3.67	3.75	-0.72
19.950	4.25	19.13	6.37	5.96	-11.34	-43.17	-10.13	10.07	6.80	11.16	1.98
19.955	15.90	36.81	18.51	3.88	-33.91	-82.68	-32.92	6.61	15.23	27.47	11.88
19.960	17.25	26.75	14.92	-8.03	-30.36	-47.99	-30.56	-6.94	9.80	23.05	15.12
19.965	-1.31	0.37	-1.64	-3.97	1.80	7.28	4.03	2.23	-0.69	-2.39	-1.84
19.970	-15.16	-16.27	-6.45	7.40	18.10	23.69	21.13	12.87	-1.57	-14.02	-14.80
MAXIMUM	190.07	355.47	200.52	448.09	308.89	349.90	319.51	263.45	143.95	363.27	202.28
@TIME	5.260	5.260	4.635	5.270	5.275	10.855	10.855	5.255	5.260	5.265	5.270
MINIMUM	-230.47	-344.30	-147.97	-290.99	-351.14	-506.01	-342.72	-501.40	-173.73	-256.81	-153.58
@TIME	5.275	5.275	10.855	10.855	5.260	5.260	5.270	5.270	11.330	11.335	10.855

CEC JOB NO. 1101-002
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. G(P07)-2 REV. NO. 3
SHEET NO. 86

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	2.42	3.10	2.07	-3.43	-23.53	-6.93	35.26	15.50	17.89	-5.32
0.005	1.73	-4.64	-14.97	-22.72	-6.54	10.36	49.71	22.77	-42.96	-12.58
0.010	-19.68	-28.59	-24.76	1.59	69.18	50.13	-26.75	-50.44	-89.42	5.98
0.015	-27.30	-8.28	25.42	56.22	57.03	26.72	-37.72	-48.45	-20.99	-8.11
0.020	14.79	37.75	45.44	31.72	0.77	-0.90	21.46	14.72	-15.37	-39.87
0.025	32.28	24.46	9.36	0.74	8.14	9.94	-2.81	-17.31	-22.47	-12.97
0.030	7.70	3.69	7.31	12.83	7.52	-6.76	-25.16	-19.70	-6.71	4.68
0.035	7.25	11.13	9.87	1.37	-11.21	-12.48	-3.60	-0.46	-2.94	0.24
0.040	9.60	2.30	-6.59	-10.47	-4.96	-1.86	-1.34	-0.18	0.98	-0.45
0.045	-3.81	-6.79	-5.52	-2.00	1.18	0.54	-1.23	-1.71	-3.46	-0.14
0.050	-5.92	-2.68	0.02	1.04	1.49	0.92	-0.96	-2.04	-1.24	-0.24
0.055	-2.14	-2.12	-1.58	-0.21	1.44	0.94	0.27	0.39	-1.32	-1.33
0.060	0.13	-0.97	-1.42	-1.26	0.04	1.01	1.14	-0.47	-0.84	-0.51
0.065	2.10	1.76	0.71	-0.09	-0.39	-0.73	-0.25	0.39	0.00	-0.24
0.070	1.35	2.16	2.40	1.68	-0.21	-0.62	-0.11	-0.63	-0.13	0.22
0.075	-0.56	0.60	1.20	1.50	1.50	1.05	0.60	0.03	-0.61	-0.77
0.080	-1.84	-1.41	-0.60	0.60	1.78	2.31	2.29	0.49	-0.45	-1.31
0.085	-1.80	-1.54	-1.20	-0.39	1.03	1.77	2.35	1.37	0.13	-0.84
0.090	-1.41	-1.20	-1.11	-0.72	-0.05	0.60	1.82	1.20	1.02	0.19
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19.900	3.28	1.15	-2.06	-5.96	-11.94	-4.60	12.53	8.39	8.17	-3.38
19.905	0.23	-2.84	-6.91	-11.61	-18.38	-6.91	18.07	15.79	17.43	0.52
19.910	-2.79	-6.63	-11.27	-16.31	-22.76	-8.20	22.49	21.80	24.58	4.15
19.915	-5.74	-9.98	-14.72	-19.33	-24.77	-8.25	25.40	25.96	29.43	7.00
19.920	-8.24	-12.30	-16.57	-20.50	-24.59	-7.44	26.59	28.08	31.80	9.06
19.925	-9.91	-13.48	-16.92	-19.91	-22.73	-6.04	26.58	28.38	31.89	10.10
19.930	-10.76	-13.58	-16.12	-18.18	-19.67	-4.22	25.55	27.27	30.15	10.15
19.935	-10.89	-12.80	-14.45	-15.67	-16.30	-2.38	23.96	25.22	27.52	9.37
19.940	-10.24	-11.51	-12.52	-13.00	-12.73	-0.72	21.98	22.58	23.84	8.09
19.945	-9.37	-10.14	-10.51	-10.34	-8.67	1.10	19.28	19.06	18.94	6.78
19.950	-8.52	-8.80	-8.30	-6.96	-3.45	2.42	11.68	14.93	18.74	5.67
19.955	-7.07	-6.42	-5.13	-3.52	-1.36	2.36	10.55	11.53	13.38	4.27
19.960	-4.85	-4.39	-3.86	-3.21	-0.58	4.61	15.49	9.24	3.41	1.42
19.965	-4.53	-5.06	-4.66	-2.31	5.19	8.21	12.06	6.77	0.96	-1.58
19.970	-5.39	-4.35	-1.37	2.94	8.42	8.99	6.85	2.40	-2.02	-2.92
MAXIMUM	201.20	190.16	189.97	187.01	199.99	158.74	932.02	613.55	607.93	245.46
@TIME	5.270	6.020	6.015	10.855	5.825	6.485	5.270	5.275	5.260	5.265
MINIMUM	-289.72	-411.25	-494.74	-677.34	-995.83	-474.98	-609.15	-195.86	-422.79	-134.32
@TIME	5.285	5.280	5.275	5.275	5.270	5.265	5.260	5.065	5.060	5.010

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK Quinn DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 87

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	6.2	-6.6	-38.9	-33.1	10.6	32.1	32.1	10.6	-33.1	-38.9	-6.6	6.2
0.005	2.9	-30.1	-109.2	-90.8	21.5	75.8	75.8	21.5	-90.9	-109.2	-30.1	2.9
0.010	-7.7	-29.6	-50.0	-45.1	-20.7	-2.8	-2.8	-20.8	-45.1	-50.1	-29.6	-7.7
0.015	-0.7	12.3	36.1	13.1	-49.0	-84.5	-84.5	-49.1	13.1	36.0	12.3	-0.7
0.020	-0.8	-4.9	-21.2	-25.3	-13.3	-9.2	-9.3	-13.5	-25.5	-21.3	-4.9	-0.8
0.025	-3.9	-18.8	-25.0	-15.7	0.7	15.6	15.5	0.5	-15.9	-25.1	-18.9	-3.9
0.030	5.0	17.2	24.6	14.4	-6.7	-21.5	-21.6	-7.0	14.3	24.5	17.2	5.0
0.035	2.2	4.3	5.5	3.9	1.6	2.2	2.0	1.3	3.6	5.4	4.3	2.3
0.040	-0.7	-2.4	-0.6	5.2	11.0	14.4	14.2	10.6	4.9	-0.8	-2.4	-0.6
0.045	1.2	6.3	13.1	14.2	11.3	9.5	9.3	10.9	13.9	12.8	6.3	1.3
0.050	0.2	1.6	6.4	10.6	12.1	12.9	12.8	11.8	10.4	6.3	1.6	0.2
0.055	0.1	0.6	2.8	5.2	7.3	8.8	8.7	7.1	5.1	2.7	0.6	0.1
0.060	-0.2	0.2	2.1	2.3	0.4	-0.6	-0.7	0.2	2.1	2.0	0.2	-0.1
0.065	0.4	0.3	-0.4	-1.8	-3.3	-4.1	-4.2	-3.7	-2.1	-0.6	0.3	0.4
0.070	0.2	0.0	-0.4	-2.1	-4.4	-5.2	-5.4	-4.7	-2.4	-0.7	-0.1	0.2
0.075	0.2	-0.1	-0.8	-1.8	-3.0	-3.6	-3.7	-3.2	-2.0	-1.0	-0.1	0.3
0.080	0.1	0.0	0.2	-0.3	-1.3	-1.4	-1.6	-1.5	-0.5	0.1	0.0	0.1
0.085	0.1	0.2	0.8	1.0	0.7	0.4	0.3	0.5	0.9	0.7	0.2	0.1
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19.900	-10.9	12.7	66.9	96.0	109.4	59.4	-45.6	-99.4	-90.7	-63.6	-8.8	14.0
19.905	-13.3	10.8	67.2	99.2	117.4	64.0	-50.2	-108.7	-99.9	-70.0	-8.6	15.9
19.910	-15.3	8.7	66.4	100.7	122.7	66.8	-54.6	-116.8	-107.9	-75.5	-8.5	17.4
19.915	-17.0	6.3	64.5	100.1	124.4	67.2	-58.1	-122.3	-113.4	-79.2	-8.5	18.4
19.920	-18.1	4.1	61.5	97.2	122.5	65.2	-60.6	-124.5	-114.7	-79.4	-7.6	19.1
19.925	-18.7	1.4	56.8	91.7	117.1	61.8	-60.6	-122.4	-112.1	-77.0	-6.4	19.1
19.930	-18.7	-1.1	50.7	83.9	108.7	57.1	-58.0	-115.9	-105.6	-71.9	-5.0	18.6
19.935	-17.8	-3.1	43.5	73.9	96.8	50.5	-53.5	-105.2	-94.8	-63.6	-3.2	17.5
19.940	-15.6	-4.6	34.3	60.4	79.6	40.5	-47.5	-90.5	-80.1	-52.7	-0.8	16.2
19.945	-14.1	-7.2	23.8	44.2	60.5	29.8	-41.5	-74.8	-63.4	-39.9	2.2	14.8
19.950	-20.6	-11.7	31.9	56.0	77.9	33.5	-81.1	-112.4	-58.7	-26.1	14.4	24.8
19.955	-34.2	-7.3	92.6	125.9	116.9	24.7	-153.3	-190.8	-78.5	-14.7	26.3	34.3
19.960	-30.5	-1.0	96.9	130.6	117.8	31.7	-117.0	-164.4	-100.6	-38.8	21.4	33.2
19.965	-15.2	-27.9	-12.6	14.3	40.0	40.0	14.6	-15.2	-30.0	-18.0	9.6	14.5
19.970	-11.9	-44.6	-69.5	-68.8	-45.4	-0.4	51.4	86.6	99.0	80.7	37.4	6.9
MAXIMUM	108.7	384.9	1322.3	1593.5	1759.6	1867.4	1873.3	1736.9	1440.3	1073.7	554.7	166.5
@TIME	10.980	4.660	12.480	12.480	11.025	11.025	11.020	11.020	11.020	11.015	5.275	5.275
MINIMUM	-342.9	-841.9	-2265.4	-2071.6	-1695.1	-1770.3	-1976.6	-1631.1	-2024.0	-2312.6	-831.9	-167.6
@TIME	12.475	5.270	5.270	5.270	10.990	10.985	10.985	4.630	5.265	5.265	5.265	5.770

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. 6(20)7)-2 REV. NO. 3
SHEET NO. 86

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	4.1	0.7	3.8	2.4	-3.4	-2.2	-2.2	-3.4	2.4	3.8	0.7	4.1
0.005	6.4	-28.0	-131.1	-109.7	35.2	96.6	96.6	35.1	-109.7	-131.1	-28.0	6.4
0.010	-8.9	-85.9	-214.3	-167.6	36.5	148.1	148.1	36.4	-167.7	-214.3	-85.9	-8.9
0.015	0.5	-6.8	-2.7	-15.9	-48.1	-58.9	-59.0	-48.2	-16.0	-2.7	-6.8	0.5
0.020	13.4	49.7	59.4	9.6	-71.0	-126.6	-126.7	-71.2	9.4	59.3	49.7	13.4
0.025	-8.9	-39.8	-67.0	-60.7	-28.1	-1.4	-1.5	-28.3	-60.9	-67.2	-39.8	-8.9
0.030	-2.4	-11.5	-20.2	-17.7	-9.7	-5.6	-5.7	-9.9	-17.9	-20.3	-11.6	-2.4
0.035	5.3	24.4	38.7	27.8	3.2	-13.2	-13.3	3.0	27.6	38.6	24.3	5.3
0.040	-3.2	-10.3	-8.9	8.4	30.7	43.3	43.2	30.5	8.1	-9.1	-10.4	-3.2
0.045	0.0	-1.5	-1.5	7.6	23.5	33.5	33.3	23.0	7.1	-1.9	-1.6	0.0
0.050	2.0	10.5	19.1	16.8	6.0	-2.3	-2.5	5.5	16.3	18.7	10.3	2.1
0.055	-0.2	-2.4	-5.5	-3.6	2.4	6.0	5.8	2.1	-3.9	-5.8	-2.5	-0.2
0.060	-0.9	-4.3	-7.5	-7.1	-3.7	-0.8	-0.9	-3.9	-7.3	-7.6	-4.3	-0.8
0.065	0.8	2.6	2.3	-2.0	-8.4	-13.1	-13.3	-8.8	-2.3	2.1	2.6	0.9
0.070	-0.6	-2.2	-3.9	-5.4	-6.1	-5.8	-6.0	-6.6	-5.9	-4.2	-2.3	-0.6
0.075	-0.5	-2.2	-3.7	-3.6	-2.9	-2.6	-2.8	-3.3	-4.0	-4.0	-2.3	-0.4
0.080	0.4	1.6	3.2	1.9	-1.4	-2.8	-3.0	-1.6	1.7	3.1	1.6	0.4
0.085	0.2	0.7	2.1	2.7	2.0	1.5	1.4	1.9	2.6	2.0	0.7	0.3
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19.900	-6.8	32.6	109.6	138.4	129.5	56.2	-69.8	-133.5	-118.1	-85.4	-25.8	8.4
19.905	-8.7	33.7	118.6	150.5	141.3	61.4	-75.7	-143.5	-123.6	-87.8	-25.0	10.2
19.910	-10.4	33.6	123.8	158.3	149.1	64.9	-79.7	-150.0	-126.3	-87.9	-23.3	11.9
19.915	-11.7	33.1	126.3	162.1	152.6	66.0	-82.1	-152.9	-126.2	-86.2	-21.2	13.1
19.920	-12.5	31.3	124.3	160.5	151.7	65.7	-81.8	-151.7	-123.8	-83.3	-19.2	13.9
19.925	-12.9	28.2	117.8	153.3	145.9	63.3	-78.8	-145.8	-117.8	-78.2	-16.7	14.2
19.930	-12.8	24.6	107.9	141.4	135.1	58.5	-73.7	-135.2	-107.3	-69.9	-13.3	14.1
19.935	-12.2	20.1	94.9	125.4	120.2	52.1	-65.9	-120.1	-93.4	-59.2	-9.4	13.6
19.940	-10.6	15.4	78.3	104.2	98.7	42.1	-54.3	-98.2	-74.1	-45.0	-5.5	12.1
19.945	-8.8	9.3	57.4	76.7	70.9	29.2	-40.8	-70.9	-48.5	-26.1	-0.1	10.3
19.950	-6.4	6.0	44.9	60.2	54.6	22.0	-33.0	-55.5	-33.8	-15.7	1.3	8.0
19.955	6.0	21.7	56.6	66.0	36.2	2.6	-23.6	-42.3	-29.5	-14.8	-11.5	-3.3
19.960	14.4	34.4	59.4	56.4	16.7	-9.2	-11.5	-20.1	-17.0	-11.6	-16.8	-8.8
19.965	4.0	12.4	27.7	30.9	26.3	17.1	0.0	-10.4	-8.2	-7.3	-5.0	0.5
19.970	-1.3	-1.9	4.6	13.1	20.4	21.5	14.1	8.3	6.9	5.7	5.1	3.4
MAXIMUM	181.3	673.0	1557.9	2199.5	2154.6	2251.1	2369.6	2181.4	1673.9	1297.7	738.0	164.2
@TIME	4.635	4.635	4.660	4.660	4.660	11.020	11.020	11.020	11.020	5.275	5.275	5.275
MINIMUM	-233.4	-869.3	-2328.7	-1922.4	-2315.4	-2714.4	-3835.0	-4115.5	-2850.0	-2404.0	-968.9	-329.2
@TIME	4.645	5.270	5.270	5.270	6.000	4.640	4.635	4.635	4.640	5.265	5.265	7.685

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 89

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-132.0	-104.7	68.9	130.1	122.9	-52.4	-174.4	-20.9	47.3	84.9	66.5	
0.005	-77.7	34.6	186.6	192.4	-83.9	-195.9	-69.1	117.0	176.2	-7.0	-58.2	
0.010	357.4	393.0	104.3	-241.6	-601.8	-168.3	448.7	443.0	245.0	-155.7	-186.5	
0.015	325.3	141.8	-154.3	-368.5	-334.1	24.1	358.0	409.3	319.4	199.0	74.8	
0.020	-107.5	-178.9	-93.1	74.0	178.5	88.7	12.1	116.5	244.0	282.5	132.9	
0.025	-104.9	19.2	133.8	182.8	170.5	130.9	66.0	-17.2	-94.4	-125.0	-60.7	
0.030	74.5	122.8	129.5	126.0	130.5	118.3	47.5	-58.5	-131.3	-132.5	-56.5	
0.035	94.7	102.1	111.6	113.6	79.4	14.9	-18.4	11.5	52.2	56.3	22.8	
0.040	114.5	120.5	85.7	28.9	-16.3	6.8	57.2	73.5	66.5	40.9	12.7	
0.045	75.6	57.7	25.9	9.0	9.5	50.4	77.7	53.8	22.8	-5.1	-8.5	
0.050	-3.5	2.1	20.1	42.4	54.9	51.3	36.6	23.8	14.2	5.3	0.5	
0.055	8.6	16.7	25.2	31.8	29.4	31.6	30.5	19.9	12.0	2.8	-1.3	
0.060	47.9	39.1	21.0	5.1	-0.8	13.5	27.4	24.2	13.6	2.1	-1.3	
0.065	44.1	40.2	28.1	14.6	1.4	1.4	7.9	11.0	13.3	9.5	2.9	
0.070	16.2	26.7	31.5	27.4	17.6	5.0	-3.7	-3.8	-3.0	-2.0	-0.4	
0.075	-0.3	6.3	15.6	23.1	24.0	14.8	0.8	-7.8	-11.2	-9.9	-4.0	
0.080	2.8	0.9	3.8	8.3	13.0	12.7	7.4	4.4	1.0	-0.2	0.4	
0.085	9.2	6.9	4.7	2.1	0.7	3.2	7.8	13.0	14.6	11.7	5.0	
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19.900	43.1	67.4	118.0	149.6	163.9	99.6	26.0	28.7	31.2	39.0	24.8	
19.905	-5.7	19.6	85.4	130.5	157.4	75.6	-15.2	-2.4	12.5	37.9	29.1	
19.910	-48.2	-26.3	47.5	102.0	140.1	47.6	-54.7	-33.9	-8.3	32.9	31.0	
19.915	-85.3	-67.7	10.0	70.0	114.2	14.8	-93.1	-63.8	-26.7	28.1	31.9	
19.920	-113.7	-100.5	-24.1	35.6	81.0	-19.3	-125.2	-88.5	-43.0	20.8	30.5	
19.925	-133.6	-125.7	-54.8	1.3	45.7	-50.2	-149.2	-107.6	-56.3	12.9	27.6	
19.930	-147.1	-143.9	-80.0	-28.7	13.0	-75.4	-164.6	-119.7	-65.2	6.1	24.5	
19.935	-154.5	-154.6	-98.0	-52.4	-14.7	-93.3	-170.9	-124.4	-69.1	0.8	21.1	
19.940	-156.5	-158.3	-108.3	-68.4	-35.3	-103.5	-169.1	-122.2	-68.2	-2.4	18.3	
19.945	-153.9	-155.2	-110.3	-75.7	-48.3	-106.0	-160.4	-114.5	-63.3	-3.5	16.1	
19.950	-144.8	-149.4	-121.6	-94.2	-58.9	-75.7	-113.0	-90.8	-56.6	-27.0	-5.1	
19.955	-126.9	-153.8	-179.7	-145.5	-33.7	17.8	-17.9	-38.0	-45.1	-55.6	-28.7	
19.960	-172.0	-196.7	-166.1	-99.9	8.4	89.6	76.0	41.3	8.2	-24.2	-16.8	
19.965	-202.6	-162.5	-58.1	13.8	36.8	87.5	118.9	119.3	95.0	49.5	15.7	
19.970	-106.8	-49.8	-7.0	31.9	66.0	97.7	122.4	133.5	119.8	82.5	30.9	
MAXIMUM	1687.7	1367.7	1411.3	1820.7	1615.9	1492.7	1759.7	1901.2	1459.1	539.3	305.6	
@TIME	5.770	5.830	5.830	5.265	5.710	5.255	5.810	5.810	5.810	6.480	5.270	
MINIMUM	-3644.6	-3158.8	-2408.6	-2695.3	-3419.3	-3653.1	-5400.2	-2967.5	-2455.5	-1471.7	-605.0	
@TIME	5.265	5.265	12.480	12.480	5.770	5.270	5.270	5.275	4.635	4.640	4.640	

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK aum DATE 3/16/01
CALC. NO. G(E017)-2 REV. NO. 3
SHEET NO. 90

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-5.45	-11.68	2.10	15.87	9.09	0.00	-9.09	-15.87	-2.10	11.68	5.45
0.005	-13.95	-28.64	6.61	40.69	22.87	0.00	-22.87	-40.69	-6.64	28.64	13.95
0.010	-9.24	-7.38	1.79	8.86	7.60	0.00	-7.60	-8.83	-1.76	7.38	9.24
0.015	5.52	8.63	-8.26	-22.56	-14.96	0.00	14.91	22.56	8.26	-8.63	-5.49
0.020	-1.77	-5.91	-1.50	4.34	1.70	0.00	-1.80	-4.34	1.50	5.99	1.77
0.025	-6.31	-2.22	3.37	5.94	6.28	-0.06	-6.35	-5.91	-3.34	2.25	6.31
0.030	5.09	2.71	-3.69	-7.66	-6.23	-0.06	6.15	7.71	3.72	-2.63	-5.09
0.035	0.87	0.42	-0.58	-0.80	0.19	-0.06	-0.30	0.86	0.61	-0.37	-0.84
0.040	-0.75	0.69	2.13	2.06	1.45	-0.06	-1.56	-2.06	-2.10	-0.59	0.80
0.045	2.14	2.46	0.42	-1.03	-0.75	-0.06	0.67	1.06	-0.34	-2.35	-2.14
0.050	0.60	1.73	1.55	0.50	0.40	-0.06	-0.40	-0.55	-1.50	-1.70	-0.60
0.055	0.22	0.74	0.87	0.80	0.65	0.00	-0.68	-0.80	-0.87	-0.74	-0.19
0.060	0.16	0.73	0.05	-0.68	-0.38	-0.06	0.32	0.68	-0.05	-0.63	-0.14
0.065	0.02	-0.28	-0.54	-0.53	-0.25	-0.06	0.25	0.53	0.57	0.30	0.09
0.070	-0.10	-0.11	-0.64	-0.79	-0.37	-0.06	0.29	0.79	0.64	0.19	0.12
0.075	-0.18	-0.24	-0.37	-0.42	-0.21	-0.06	0.21	0.42	0.40	0.30	0.21
0.080	-0.01	0.07	-0.21	-0.33	-0.04	-0.06	0.04	0.36	0.23	-0.04	0.01
0.085	0.08	0.23	0.10	-0.10	-0.10	0.00	0.05	0.10	-0.05	-0.18	-0.05
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19.900	9.95	19.62	10.53	4.89	-21.09	-53.04	-22.69	3.13	9.84	19.87	9.67
19.905	10.17	20.42	11.60	6.62	-22.52	-57.67	-24.67	3.16	10.82	22.23	10.38
19.910	10.18	20.96	12.39	8.01	-23.62	-61.30	-26.24	3.21	11.78	24.22	10.95
19.915	9.76	21.12	12.90	8.79	-24.15	-63.27	-27.12	3.23	12.39	25.62	11.38
19.920	9.32	20.84	12.93	9.18	-24.16	-63.57	-26.98	3.55	12.79	26.02	11.27
19.925	8.47	20.07	12.66	9.22	-23.29	-61.83	-26.09	3.76	12.71	25.56	10.79
19.930	7.41	18.78	12.02	8.98	-21.78	-58.18	-24.45	3.73	12.21	24.20	9.97
19.935	6.19	16.91	11.01	8.35	-19.54	-52.54	-21.89	3.78	11.30	21.91	8.68
19.940	4.63	14.07	9.47	6.94	-16.48	-44.44	-18.17	3.81	9.92	18.83	7.20
19.945	2.91	11.24	7.37	5.93	-12.92	-35.99	-14.07	4.07	8.52	15.27	5.27
19.950	3.77	15.82	8.74	7.88	-18.79	-57.83	-13.23	19.47	11.80	14.71	4.42
19.955	11.37	36.19	12.05	-3.26	-38.92	-89.86	-15.83	40.70	23.07	14.84	3.39
19.960	12.47	35.49	12.22	-4.62	-36.38	-75.08	-20.00	23.09	22.39	21.82	4.95
19.965	-5.37	5.53	9.74	9.34	0.00	-12.81	-12.59	-5.34	4.40	10.00	2.06
19.970	-13.79	-9.03	0.25	8.43	19.06	26.16	14.87	4.50	-6.68	-15.67	-12.86
MAXIMUM	205.39	383.34	202.22	647.66	394.93	321.19	255.43	387.81	203.99	536.51	312.24
@TIME	12.480	12.480	11.025	5.265	5.270	10.855	8.220	5.255	10.985	5.265	5.265
MINIMUM	-308.97	-515.72	-185.52	-240.21	-426.82	-568.92	-476.42	-750.31	-188.87	-257.86	-163.80
@TIME	5.270	5.270	10.985	4.635	12.480	5.255	5.265	5.265	11.020	11.015	5.275

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK QUM DATE 3/16/01
CALC. NO. G(05/7)-2 REV. NO. 3
SHEET NO. 91

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	-1.47	1.13	-0.51	-2.11	0.58	0.00	-0.58	2.11	0.51	-1.13	1.47
0.005	-14.53	-37.37	7.73	52.49	25.94	0.00	-25.94	-52.49	-7.73	37.37	14.53
0.010	-32.53	-46.54	16.89	73.96	47.08	0.00	-47.11	-73.96	-16.89	46.54	32.53
0.015	-3.04	1.46	-4.79	-11.68	-4.57	0.00	4.52	11.68	4.79	-1.46	3.04
0.020	15.35	3.54	-18.06	-29.21	-23.51	0.00	23.37	29.18	18.06	-3.44	-15.32
0.025	-13.04	-9.89	2.28	11.78	11.26	0.00	-11.35	-11.78	-2.28	9.92	13.04
0.030	-3.80	-3.17	0.85	2.90	1.70	0.00	-1.79	-2.94	-0.85	3.20	3.86
0.035	8.06	5.14	-3.96	-8.90	-6.93	0.00	6.88	8.90	3.96	-5.14	-8.06
0.040	-3.02	0.58	6.25	8.12	5.28	-0.06	-5.36	-8.07	-6.25	-0.45	3.02
0.045	-0.62	-0.01	3.27	5.78	4.24	-0.11	-4.35	-5.78	-3.27	0.14	0.71
0.050	3.54	3.12	-0.80	-3.93	-3.48	-0.11	3.39	3.88	0.88	-3.02	-3.48
0.055	-0.94	-1.14	0.68	2.20	1.50	-0.06	-1.56	-2.18	-0.68	1.17	0.94
0.060	-1.45	-1.15	0.13	1.25	1.23	-0.06	-1.29	-1.25	-0.10	1.22	1.45
0.065	0.77	-0.14	-1.57	-2.32	-1.94	-0.06	1.94	2.32	1.57	0.19	-0.70
0.070	-0.73	-0.60	-0.54	-0.25	0.15	-0.06	-0.31	0.25	0.60	0.71	0.73
0.075	-0.77	-0.54	-0.01	0.24	0.19	-0.06	-0.19	-0.24	0.01	0.60	0.80
0.080	0.53	0.64	-0.52	-1.16	-0.66	-0.06	0.56	1.19	0.55	-0.58	-0.53
0.085	0.20	0.51	0.20	-0.26	-0.25	0.00	0.17	0.26	-0.20	-0.51	-0.20
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19.900	16.62	27.85	10.48	-3.19	-30.95	-63.63	-26.91	5.60	11.86	21.58	14.43
19.905	17.92	30.76	11.55	-3.39	-33.72	-69.26	-28.62	7.20	13.03	22.73	14.88
19.910	18.63	32.70	12.49	-3.33	-35.51	-73.02	-29.65	8.56	13.90	23.38	14.82
19.915	18.88	33.76	12.94	-3.47	-36.54	-74.78	-29.84	9.67	14.54	23.57	14.49
19.920	18.42	33.66	13.16	-3.16	-36.38	-74.48	-29.48	10.11	14.67	23.25	13.97
19.925	17.35	32.43	12.89	-2.70	-34.85	-71.81	-28.29	10.18	14.30	22.35	13.05
19.930	15.82	30.17	12.11	-2.30	-32.32	-66.80	-25.98	10.10	13.59	20.50	11.56
19.935	13.68	27.15	11.01	-1.86	-28.76	-59.59	-22.92	9.67	12.45	18.03	9.70
19.940	10.95	22.76	9.39	-1.99	-23.82	-48.68	-18.50	8.71	10.58	14.30	7.45
19.945	7.61	17.44	6.97	-2.10	-17.63	-35.33	-12.71	8.11	8.08	9.39	4.44
19.950	5.25	14.10	5.57	-2.02	-13.76	-27.70	-9.53	7.85	6.54	6.15	2.84
19.955	6.63	12.67	3.42	-10.83	-14.15	-13.22	-7.94	4.64	5.32	1.19	3.45
19.960	8.45	9.09	-1.13	-14.38	-10.94	-1.17	-3.66	1.13	1.95	-1.93	3.37
19.965	3.52	5.55	1.20	-1.64	-3.90	-8.65	-4.37	0.83	0.37	0.80	2.34
19.970	-0.25	2.31	3.12	2.59	0.49	-3.71	-2.47	-0.47	-0.46	-0.20	-0.67
MAXIMUM	232.74	392.17	232.48	741.16	419.86	539.87	445.21	465.80	483.19	519.97	342.84
@TIME	5.260	4.660	4.660	5.270	5.270	6.000	6.000	4.635	4.635	5.265	5.265
MINIMUM	-314.75	-528.74	-318.12	-463.08	-751.71	-934.09	-493.85	-634.90	-230.43	-263.48	-242.13
@TIME	5.270	5.270	4.640	4.635	4.635	4.635	5.265	5.265	11.020	4.970	5.275

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 92

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	10.42	62.96	22.19	-2.54	-45.41	-31.55	55.68	24.71	13.58	-5.43
0.005	42.81	55.09	2.10	-100.09	-29.01	32.89	67.47	21.46	-66.44	-15.16
0.010	13.58	-104.56	-125.37	-130.49	112.36	159.79	-2.03	-71.77	-145.20	-9.13
0.015	-70.06	-107.35	-77.65	12.48	92.76	86.52	18.57	-32.61	-43.62	-36.88
0.020	-27.22	31.07	60.51	37.86	-23.31	-19.84	37.80	46.15	13.93	-44.36
0.025	47.38	41.52	17.73	-4.41	-10.26	-16.85	-30.13	-27.97	-11.06	19.16
0.030	18.47	2.47	-1.29	1.62	-3.16	-18.39	-38.38	-26.32	-0.44	22.52
0.035	2.80	3.48	0.76	-12.39	-16.64	-8.64	10.73	14.72	1.48	-9.95
0.040	2.27	-12.55	-20.55	-16.36	5.98	13.01	5.90	-2.61	-9.24	-8.38
0.045	-6.83	-11.51	-6.13	0.16	10.61	7.06	-8.62	-11.22	-10.10	-0.98
0.050	2.12	6.56	8.03	4.58	-0.93	-3.84	-4.64	-3.52	-3.20	-1.39
0.055	3.09	3.14	2.39	-0.89	0.58	-0.30	-3.86	-2.86	-3.39	-1.23
0.060	-3.33	-6.58	-5.72	-2.17	3.70	3.58	-1.16	-3.85	-4.16	-0.99
0.065	-1.47	-4.39	-4.81	-4.75	-0.06	1.64	1.15	0.75	-1.41	-1.94
0.070	4.00	1.77	-1.53	-3.55	-3.28	-2.23	-0.03	0.27	0.38	0.44
0.075	2.48	3.45	2.66	0.32	-2.40	-3.62	-3.09	-1.25	0.44	1.80
0.080	-0.71	1.05	1.59	1.74	-0.11	-1.41	-1.07	-1.26	-0.41	0.19
0.085	-0.83	-0.76	-0.90	-0.47	0.64	1.17	1.91	0.56	-1.05	-1.97
0.090	0.00	0.61	-0.66	-0.70	-0.58	0.12	2.30	0.99	-0.13	-1.50
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19.900	9.26	18.34	11.48	5.14	-16.63	-19.08	0.99	0.90	2.80	-4.20
19.905	9.65	23.81	16.33	9.80	-21.21	-23.58	4.65	5.40	9.21	-2.56
19.910	8.30	26.76	19.78	13.81	-23.97	-26.50	7.51	9.29	14.95	-0.54
19.915	6.72	28.18	21.69	16.02	-25.71	-27.94	10.64	13.46	19.86	1.17
19.920	5.07	27.71	21.65	16.48	-25.98	-27.42	13.26	16.49	23.12	2.85
19.925	3.02	25.65	20.37	16.06	-24.82	-25.63	15.11	18.57	25.09	4.39
19.930	1.21	23.15	18.57	15.10	-22.88	-23.09	16.23	19.79	25.84	5.48
19.935	-0.03	20.49	16.56	13.65	-20.40	-20.09	16.86	20.10	25.31	6.02
19.940	-0.68	18.14	14.41	11.94	-17.69	-17.02	16.97	19.50	23.85	6.17
19.945	-0.45	16.29	12.53	9.91	-14.97	-14.04	16.61	18.52	21.63	5.87
19.950	-1.73	10.07	9.94	12.82	-4.35	-9.68	8.04	12.37	10.72	6.49
19.955	-10.23	-9.38	12.39	40.54	13.32	-9.30	-7.26	-2.55	-3.83	7.96
19.960	-9.40	11.09	23.99	39.24	21.01	-3.54	-12.56	-11.98	-11.78	2.18
19.965	15.33	37.85	25.99	8.33	13.14	8.13	0.14	-8.77	-16.49	-10.02
19.970	21.78	15.58	14.03	12.33	8.22	6.40	4.09	-5.01	-13.53	-15.29
MAXIMUM	366.36	1205.35	598.87	776.43	383.48	540.64	1029.50	740.45	492.62	288.59
@TIME	5.270	5.265	5.265	5.255	12.485	5.770	5.270	5.270	4.635	5.785
MINIMUM	-486.41	-762.15	-592.39	-718.84	-1038.40	-452.63	-583.13	-163.70	-353.97	-154.15
@TIME	12.480	12.480	5.770	5.770	5.270	5.270	5.255	5.925	5.065	5.810

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. SC(B17)-2 REV. NO. 3
SHEET NO. 97

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.3	-0.5	-0.5	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	0.9	0.9	0.1	-0.2	-0.2	0.0	0.8	0.9	0.3	0.2
0.015	0.2	0.2	0.9	1.0	0.3	0.2	0.1	0.1	0.8	0.8	0.2	0.2
0.020	0.2	0.4	1.1	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.025	0.2	0.3	1.1	1.1	0.4	0.2	0.2	0.3	1.0	1.0	0.3	0.2
0.030	0.2	0.3	1.0	1.1	0.4	0.2	0.2	0.2	0.9	0.9	0.2	0.2
0.035	0.2	0.3	1.1	1.1	0.3	0.1	0.0	0.1	0.8	0.9	0.3	0.2
0.040	0.2	0.3	1.1	1.0	0.3	0.1	-0.1	0.0	0.7	0.8	0.2	0.2
0.045	0.2	0.3	1.0	1.0	0.3	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.050	0.2	0.3	1.0	1.0	0.2	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.055	0.2	0.3	1.0	0.9	0.2	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.060	0.2	0.3	1.0	1.0	0.3	0.0	-0.1	-0.1	0.7	0.8	0.2	0.2
0.065	0.2	0.3	1.1	1.1	0.4	0.1	-0.1	-0.1	0.6	0.7	0.2	0.2
0.070	0.2	0.3	1.1	1.1	0.4	0.1	-0.1	-0.1	0.7	0.7	0.2	0.2
0.075	0.2	0.3	1.0	1.1	0.3	0.1	-0.1	0.0	0.7	0.8	0.2	0.2
0.080	0.2	0.3	1.0	1.0	0.3	0.1	-0.1	0.0	0.7	0.8	0.2	0.2
0.085	0.2	0.3	1.0	1.0	0.3	0.1	-0.1	0.0	0.7	0.8	0.2	0.2
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19.900	-1.6	20.3	61.9	79.8	78.3	40.5	-28.4	-66.4	-65.3	-49.7	-15.0	4.0
19.905	-3.0	22.2	68.2	88.2	88.5	42.8	-40.5	-85.5	-82.6	-62.0	-17.9	5.5
19.910	-4.6	23.7	74.5	96.8	99.1	46.4	-50.0	-101.5	-96.9	-72.2	-20.3	6.9
19.915	-6.0	25.3	81.3	106.6	111.0	51.9	-56.5	-114.5	-109.2	-81.4	-22.7	8.0
19.920	-7.2	26.7	87.3	115.5	121.8	57.6	-60.7	-124.3	-118.6	-88.7	-24.8	8.8
19.925	-8.3	26.7	89.7	119.8	127.7	60.9	-62.7	-129.3	-123.4	-92.3	-25.7	9.5
19.930	-9.7	23.7	83.4	114.4	128.3	63.1	-61.8	-128.7	-122.0	-91.1	-24.5	10.4
19.935	-10.7	20.6	74.8	106.0	127.5	65.5	-60.4	-127.4	-120.2	-90.1	-23.6	10.9
19.940	-8.5	25.7	84.7	114.4	127.2	61.9	-63.1	-131.0	-124.9	-94.4	-27.3	9.3
19.945	-5.2	33.0	98.8	126.5	125.7	55.3	-65.9	-133.0	-127.9	-96.3	-29.9	7.6
19.950	-18.5	26.4	126.4	160.3	154.8	64.7	-104.1	-171.9	-126.2	-82.9	-17.2	16.3
19.955	-24.5	38.9	188.1	236.3	204.1	71.4	-146.4	-226.7	-149.3	-81.7	-9.1	23.1
19.960	-9.2	50.5	162.1	212.1	200.5	88.4	-88.8	-187.1	-176.5	-123.9	-30.4	16.1
19.965	-7.6	7.7	47.0	82.0	106.3	69.3	-16.9	-88.6	-112.8	-99.1	-42.0	0.8
19.970	-5.1	-13.0	-14.1	-18.8	-27.8	-31.3	-30.8	-22.2	-2.7	2.4	-5.3	-4.0
MAXIMUM	145.1	694.9	1432.1	1830.4	1676.0	1506.0	1431.5	1209.7	1211.1	993.6	368.8	96.6
@TIME	4.655	4.660	4.660	4.665	4.665	12.530	12.530	11.005	11.005	12.385	13.250	12.535
MINIMUM	-141.0	-618.4	-1819.9	-1533.5	-1788.1	-2157.2	-3042.8	-3086.6	-2181.3	-1560.1	-673.7	-151.4
@TIME	5.250	5.260	5.260	5.260	12.500	12.500	12.495	12.495	12.500	12.500	12.500	5.650

CEC JOB NO. 1101-006
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 94

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	0.9	-0.1	-0.4	-0.4	-0.2	0.9	1.1	0.3	0.2
0.010	0.2	0.4	1.1	1.1	0.2	0.0	0.0	0.2	1.0	1.1	0.4	0.2
0.015	0.2	0.3	1.1	1.2	0.5	0.3	0.3	0.3	1.1	1.0	0.3	0.2
0.020	0.2	0.5	1.4	1.4	0.5	0.3	0.2	0.4	1.2	1.2	0.4	0.2
0.025	0.2	0.4	1.4	1.4	0.5	0.3	0.2	0.4	1.3	1.3	0.4	0.2
0.030	0.2	0.4	1.4	1.4	0.5	0.3	0.2	0.3	1.2	1.2	0.4	0.2
0.035	0.2	0.4	1.4	1.4	0.5	0.2	0.0	0.2	1.1	1.2	0.4	0.2
0.040	0.2	0.4	1.4	1.4	0.4	0.1	-0.1	0.1	1.1	1.2	0.4	0.2
0.045	0.2	0.4	1.4	1.3	0.3	0.0	-0.1	0.0	1.0	1.1	0.3	0.2
0.050	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.0	1.1	1.2	0.4	0.2
0.055	0.2	0.4	1.4	1.4	0.3	0.0	-0.2	0.1	1.2	1.3	0.4	0.2
0.060	0.2	0.4	1.5	1.5	0.4	0.0	-0.1	0.1	1.2	1.3	0.4	0.2
0.065	0.2	0.5	1.6	1.6	0.5	0.1	-0.1	0.0	1.1	1.2	0.4	0.2
0.070	0.2	0.5	1.6	1.6	0.5	0.1	-0.1	0.1	1.1	1.3	0.4	0.2
0.075	0.2	0.5	1.6	1.6	0.5	0.1	-0.1	0.1	1.2	1.3	0.4	0.2
0.080	0.2	0.5	1.5	1.5	0.5	0.1	-0.1	0.2	1.3	1.3	0.4	0.2
0.085	0.2	0.5	1.6	1.6	0.5	0.1	-0.1	0.1	1.2	1.3	0.4	0.2
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19.900	-2.5	19.1	60.4	76.3	71.6	31.6	-38.3	-75.0	-70.5	-52.2	-16.0	3.8
19.905	-3.8	23.3	75.2	94.0	86.7	36.6	-48.6	-91.4	-81.3	-58.9	-18.2	4.9
19.910	-4.8	27.8	89.6	111.4	101.4	41.8	-57.6	-106.3	-91.3	-65.1	-20.4	6.0
19.915	-5.6	32.0	102.6	126.9	114.9	46.9	-65.1	-119.3	-100.1	-70.8	-22.4	6.9
19.920	-6.3	35.4	113.2	139.7	126.0	51.3	-70.7	-129.6	-107.2	-75.4	-24.0	7.7
19.925	-6.1	38.5	122.0	149.2	131.7	52.6	-73.8	-134.5	-108.8	-75.6	-24.8	8.1
19.930	-5.9	37.4	111.0	138.8	133.6	57.4	-70.0	-130.7	-102.5	-70.4	-22.9	8.8
19.935	-8.3	25.9	81.4	110.9	129.0	64.6	-61.5	-121.6	-93.0	-64.0	-19.4	10.2
19.940	-9.8	21.9	85.7	112.2	115.1	51.2	-67.4	-121.6	-91.3	-61.9	-18.5	10.0
19.945	-7.1	35.3	119.0	141.0	114.0	35.0	-83.7	-136.2	-104.1	-69.4	-22.2	8.5
19.950	-11.1	44.4	156.9	187.9	159.7	58.8	-104.7	-175.3	-132.3	-88.2	-26.6	11.4
19.955	-11.1	70.5	235.8	283.4	231.5	86.0	-135.8	-230.5	-163.3	-102.3	-33.6	12.1
19.960	3.0	92.5	239.8	290.7	247.7	104.4	-99.6	-205.0	-174.0	-120.1	-42.1	9.1
19.965	-0.4	34.5	99.4	139.7	151.7	100.6	-0.5	-77.2	-97.8	-86.2	-35.8	3.8
19.970	-7.2	-17.5	-13.7	-4.5	8.5	22.8	29.2	34.5	39.3	27.5	9.4	2.6
MAXIMUM	86.7	487.8	1325.1	1692.0	1780.2	1737.2	1635.7	1416.6	1318.5	1079.5	367.8	83.5
@TIME	12.495	10.985	10.985	10.985	12.525	12.530	12.530	5.765	4.985	4.985	4.985	10.855
MINIMUM	-354.1	-621.3	-1526.4	-1462.3	-1599.1	-2101.0	-2834.7	-2838.7	-2308.3	-1665.8	-756.0	-227.7
@TIME	4.650	12.505	5.260	12.505	12.500	12.500	12.495	12.495	12.500	12.500	12.500	13.220

CEC JOB NO. 1110/-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. 6(B)(7)-2 REV. NO. 3
SHEET NO. 95

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.8	1.0	0.5	0.4	
0.005	-1.0	-0.4	1.3	1.2	-0.6	-0.5	-0.2	2.2	3.0	1.9	1.1	
0.010	-1.1	-0.7	0.7	0.8	-0.2	0.2	0.9	3.2	3.9	2.8	1.4	
0.015	-1.5	-1.2	0.4	0.9	0.5	1.3	1.8	3.5	3.8	2.4	1.2	
0.020	-2.3	-1.6	0.7	1.7	1.4	1.7	1.7	3.5	3.8	2.5	1.3	
0.025	-2.3	-1.6	0.8	2.0	1.7	1.7	1.4	3.2	3.7	2.7	1.5	
0.030	-1.6	-1.2	0.9	1.8	1.5	1.4	1.1	3.0	3.5	2.6	1.4	
0.035	-1.2	-0.9	1.0	1.8	1.3	1.0	0.5	2.6	3.3	2.5	1.4	
0.040	-0.9	-0.8	1.1	1.8	1.3	0.6	-0.3	2.0	2.9	2.5	1.5	
0.045	-0.9	-0.8	1.1	1.8	1.3	0.3	-0.7	1.5	2.5	2.2	1.4	
0.050	-0.9	-0.9	1.1	1.8	1.3	0.1	-1.1	1.2	2.3	2.2	1.4	
0.055	-1.0	-1.1	0.9	1.7	1.3	0.0	-1.3	1.1	2.3	2.3	1.5	
0.060	-1.0	-1.2	0.8	1.6	1.2	-0.1	-1.4	1.0	2.3	2.3	1.5	
0.065	-1.2	-1.4	0.7	1.5	1.1	-0.2	-1.5	1.0	2.2	2.3	1.5	
0.070	-1.3	-1.6	0.6	1.4	1.1	-0.2	-1.6	0.9	2.2	2.3	1.6	
0.075	-1.3	-1.6	0.5	1.4	1.0	-0.3	-1.7	0.9	2.2	2.3	1.6	
0.080	-1.3	-1.6	0.4	1.3	0.9	-0.4	-1.7	0.9	2.2	2.3	1.6	
0.085	-1.3	-1.7	0.4	1.2	0.9	-0.4	-1.8	0.8	2.2	2.3	1.6	
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19.900	6.4	24.7	53.7	73.6	82.8	70.7	49.5	43.8	34.0	23.7	10.5	
19.905	-9.8	-5.0	30.1	57.3	75.5	37.9	-6.5	1.6	9.3	22.1	16.2	
19.910	-24.9	-32.3	7.5	40.2	65.3	4.2	-61.2	-39.7	-14.9	19.6	21.1	
19.915	-38.4	-56.9	-14.4	22.1	52.2	-28.7	-111.3	-78.0	-38.3	15.2	24.2	
19.920	-48.7	-77.8	-35.1	2.6	35.6	-59.7	-154.0	-110.6	-58.3	10.5	26.2	
19.925	-59.7	-101.1	-56.1	-15.7	22.4	-88.0	-195.0	-137.6	-72.2	11.4	31.5	
19.930	-21.6	-79.8	-66.2	-41.9	-27.4	-137.8	-220.9	-150.1	-75.0	17.0	36.7	
19.935	99.1	24.0	-36.0	-84.7	-136.1	-228.3	-245.0	-148.8	-65.1	25.7	40.1	
19.940	153.2	75.7	4.4	-89.4	-166.2	-282.3	-313.1	-191.0	-80.5	22.1	39.0	
19.945	38.5	-18.2	-10.7	-31.9	-57.2	-228.6	-362.2	-271.7	-156.2	-30.0	20.1	
19.950	-56.7	-107.7	-93.3	-41.8	28.2	-119.9	-303.1	-285.8	-212.1	-82.6	-1.2	
19.955	-49.0	-123.0	-162.9	-122.8	-2.4	-44.6	-178.2	-209.7	-169.3	-48.1	13.5	
19.960	-92.0	-147.9	-119.0	-92.1	-60.4	-78.7	-114.3	-73.5	-31.7	22.0	30.8	
19.965	-108.0	-124.7	-66.1	-47.1	-75.4	-121.4	-107.9	4.5	62.9	64.8	35.4	
19.970	-35.1	-56.4	-79.2	-88.2	-77.2	-64.8	-51.9	-23.2	9.4	33.2	21.0	
MAXIMUM	1454.0	1730.0	1629.3	2685.3	2212.5	1747.5	1920.7	1911.9	1637.4	928.0	405.7	
@TIME	4.655	4.655	4.660	5.260	5.260	5.610	5.615	5.615	5.595	5.525	5.525	
MINIMUM	-2797.9	-2093.1	-1770.5	-1757.4	-2713.2	-2645.9	-4306.8	-2630.9	-1903.5	-1145.6	-739.8	
@TIME	5.260	5.260	5.280	5.525	5.525	5.530	5.265	5.265	13.220	13.220	5.585	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 96

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.41	-0.13	0.00	0.13	0.41	0.00	-0.28	-0.02
0.010	0.00	0.23	0.00	-0.33	-0.13	0.00	0.10	0.33	0.00	-0.18	0.00
0.015	0.00	0.28	0.00	-0.25	-0.02	0.00	0.02	0.25	0.00	-0.25	0.06
0.020	0.10	0.28	0.00	-0.28	-0.10	0.00	0.02	0.28	0.00	-0.28	-0.08
0.025	0.08	0.28	0.00	-0.28	-0.07	0.00	0.02	0.28	0.00	-0.25	-0.08
0.030	0.05	0.28	0.00	-0.25	-0.07	0.00	0.02	0.28	0.00	-0.25	0.00
0.035	0.10	0.25	0.00	-0.28	-0.10	-0.06	0.02	0.28	0.00	-0.25	0.00
0.040	0.10	0.28	0.00	-0.31	-0.10	-0.06	0.02	0.31	0.00	-0.23	0.00
0.045	0.00	0.28	0.00	-0.31	-0.10	-0.06	0.02	0.28	0.00	-0.15	0.00
0.050	0.00	0.28	0.00	-0.28	-0.07	-0.06	0.05	0.28	0.00	-0.23	0.00
0.055	0.00	0.28	0.00	-0.28	-0.07	-0.06	0.07	0.28	0.00	-0.25	0.00
0.060	0.00	0.28	0.00	-0.28	-0.10	-0.06	0.05	0.28	0.00	-0.25	0.00
0.065	0.10	0.28	0.00	-0.28	-0.10	-0.11	0.02	0.28	0.00	-0.18	0.03
0.070	0.08	0.28	0.00	-0.25	-0.10	-0.11	0.02	0.25	0.00	-0.25	0.03
0.075	0.08	0.25	0.00	-0.25	-0.10	-0.06	0.05	0.25	0.00	-0.25	0.00
0.080	0.03	0.25	0.00	-0.25	-0.07	-0.06	0.05	0.25	0.00	-0.25	0.00
0.085	0.08	0.25	0.00	-0.25	-0.10	-0.06	0.05	0.25	0.00	-0.25	0.00
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19.900	9.27	15.04	6.48	-0.56	-15.96	-34.82	-16.06	0.41	5.63	12.52	8.06
19.905	10.68	16.62	7.22	0.10	-19.28	-41.99	-19.01	1.04	7.51	15.99	9.87
19.910	11.96	18.38	8.10	0.79	-22.27	-48.65	-21.75	1.64	8.97	18.82	11.51
19.915	13.23	20.29	9.14	1.56	-24.94	-54.77	-24.50	1.94	10.06	21.25	12.97
19.920	14.27	21.94	10.23	2.30	-27.09	-59.74	-26.84	2.10	10.87	23.18	14.22
19.925	14.77	22.83	10.95	2.88	-28.23	-62.40	-28.17	2.16	11.26	24.15	14.85
19.930	14.05	21.63	11.24	5.07	-27.50	-63.01	-28.27	2.42	11.22	24.14	14.75
19.935	13.15	19.61	11.32	7.76	-26.14	-63.59	-28.30	2.62	10.92	24.05	14.59
19.940	14.42	21.42	10.74	4.66	-27.55	-63.16	-28.66	2.14	11.08	24.31	15.40
19.945	16.12	23.78	10.04	-0.26	-29.69	-61.20	-28.33	1.81	11.44	24.07	15.81
19.950	18.95	36.24	12.30	-2.00	-37.97	-85.31	-28.62	16.53	15.69	23.85	14.08
19.955	26.77	54.05	17.47	-11.69	-55.99	-109.97	-33.90	28.07	24.42	26.38	13.54
19.960	25.19	40.49	18.14	-4.19	-47.27	-89.46	-41.45	3.85	19.06	33.89	19.63
19.965	6.48	14.28	12.66	8.82	-15.59	-43.58	-30.27	-8.71	4.95	20.71	18.06
19.970	-3.34	-0.41	-1.76	-3.21	-1.51	0.31	3.64	7.05	1.86	-2.75	0.59
MAXIMUM	239.24	321.78	168.12	611.33	414.96	467.99	332.72	480.10	392.49	346.22	244.89
@TIME	4.660	4.665	12.520	5.260	5.260	13.205	13.205	12.495	12.495	11.550	12.500
MINIMUM	-245.83	-435.31	-269.60	-317.80	-570.67	-695.43	-274.27	-604.41	-155.04	-257.28	-146.05
@TIME	5.260	5.260	12.500	12.495	12.495	12.495	5.260	5.260	5.260	12.385	12.385

CEC JOB NO. 1101-006
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. G1(B17)-2 REV. NO. 3
SHEET NO. 97

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.28	0.00	-0.37	-0.06	0.00	0.06	0.40	0.00	-0.28	-0.04
0.010	0.07	0.26	0.00	-0.38	-0.09	0.00	0.09	0.35	0.00	-0.23	-0.04
0.015	0.04	0.28	0.00	-0.30	-0.03	0.00	0.03	0.30	0.00	-0.26	0.00
0.020	0.14	0.35	0.00	-0.30	-0.12	0.00	0.03	0.32	0.00	-0.32	-0.14
0.025	0.14	0.35	0.00	-0.32	-0.09	0.00	0.03	0.32	0.00	-0.32	-0.14
0.030	0.14	0.35	0.00	-0.30	-0.09	0.00	0.03	0.32	0.00	-0.32	-0.07
0.035	0.14	0.35	0.00	-0.35	-0.16	-0.06	0.03	0.35	0.00	-0.32	-0.07
0.040	0.14	0.35	0.00	-0.39	-0.16	-0.06	0.06	0.39	0.00	-0.32	-0.07
0.045	0.07	0.35	0.00	-0.39	-0.16	-0.06	0.06	0.39	0.00	-0.27	-0.07
0.050	0.07	0.39	0.00	-0.39	-0.16	0.00	0.13	0.39	0.00	-0.32	-0.07
0.055	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.060	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.065	0.14	0.39	0.00	-0.39	-0.18	-0.06	0.10	0.39	0.00	-0.31	-0.07
0.070	0.14	0.39	0.00	-0.39	-0.16	-0.06	0.10	0.39	0.00	-0.36	-0.07
0.075	0.14	0.39	0.00	-0.36	-0.16	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.080	0.07	0.39	0.00	-0.36	-0.13	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.085	0.14	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.36	-0.07
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19.900	9.10	14.99	5.76	-1.66	-16.93	-35.31	-15.46	1.58	6.68	13.13	8.39
19.905	11.47	18.75	6.82	-2.70	-21.11	-42.99	-18.08	3.63	8.15	14.77	9.78
19.910	13.77	22.40	7.88	-3.64	-25.13	-50.14	-20.57	5.45	9.47	16.23	11.12
19.915	15.86	25.57	8.77	-4.36	-28.70	-56.54	-22.90	6.95	10.63	17.58	12.35
19.920	17.60	28.22	9.54	-4.93	-31.50	-61.63	-24.84	8.14	11.51	18.64	13.38
19.925	18.83	30.27	9.91	-6.32	-33.41	-63.81	-25.65	9.28	12.05	18.40	13.89
19.930	18.21	26.68	10.06	-1.85	-32.16	-64.31	-25.60	10.22	11.63	17.14	13.40
19.935	14.39	20.07	10.68	6.53	-27.20	-63.70	-25.35	10.34	10.55	16.12	12.52
19.940	13.35	23.13	9.59	1.08	-26.99	-59.88	-22.86	10.98	10.68	15.76	12.01
19.945	17.88	30.30	7.96	-9.80	-33.37	-59.92	-22.16	11.59	12.60	17.07	12.93
19.950	23.45	40.75	11.23	-10.22	-42.57	-82.55	-29.85	15.50	16.02	22.33	16.07
19.955	34.46	59.89	17.19	-18.85	-61.41	-112.03	-39.95	24.34	22.12	24.93	19.31
19.960	37.77	53.39	18.51	-15.59	-60.49	-102.99	-44.47	11.21	19.59	28.27	21.63
19.965	14.77	23.53	14.59	4.30	-21.55	-51.07	-32.37	-7.47	4.19	18.31	16.67
19.970	-4.31	1.33	3.35	4.73	6.08	3.19	2.28	1.75	-4.31	-6.53	-2.85
MAXIMUM	192.37	303.38	184.93	442.68	248.23	340.26	265.88	449.13	353.60	343.50	265.92
@TIME	12.525	10.985	12.520	5.260	5.265	4.965	4.965	12.495	12.495	11.550	12.500
MINIMUM	-194.60	-382.76	-231.63	-345.19	-525.69	-603.95	-289.66	-373.17	-160.13	-257.87	-167.85
@TIME	5.265	5.260	12.500	12.495	12.495	12.495	12.520	5.265	12.530	4.985	4.985

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. G(B12)-2 REV. NO. 3
SHEET NO. 98

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.27	0.00	-0.40	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.23	0.59	0.00	-0.73	0.00	0.00	0.77	0.30	-0.43	-0.30
0.010	0.19	0.48	0.00	-0.35	0.00	0.19	0.84	0.30	-0.35	-0.41
0.015	0.08	0.54	0.30	-0.13	0.30	0.04	0.65	0.00	-0.43	-0.30
0.020	0.26	0.82	0.30	-0.13	0.00	0.00	0.62	0.00	-0.43	-0.30
0.025	0.21	0.84	0.36	-0.13	0.00	-0.11	0.70	0.28	-0.37	-0.30
0.030	0.16	0.78	0.30	-0.13	0.00	-0.11	0.73	0.28	-0.37	-0.30
0.035	0.08	0.76	0.30	-0.13	-0.11	-0.11	0.78	0.30	-0.31	-0.30
0.040	0.08	0.73	0.30	-0.17	-0.19	-0.22	0.80	0.30	-0.13	-0.30
0.045	0.04	0.73	0.30	-0.17	-0.24	-0.24	0.78	0.30	-0.13	-0.30
0.050	-0.09	0.76	0.30	-0.15	-0.30	-0.34	0.78	0.30	-0.11	-0.24
0.055	-0.09	0.76	0.30	-0.15	-0.41	-0.41	0.85	0.41	-0.06	-0.24
0.060	-0.09	0.71	0.30	-0.17	-0.41	-0.41	0.88	0.44	0.02	-0.24
0.065	-0.09	0.71	0.30	-0.17	-0.41	-0.39	0.91	0.47	0.02	-0.24
0.070	-0.09	0.76	0.30	-0.15	-0.41	-0.39	0.94	0.52	0.08	-0.24
0.075	-0.11	0.71	0.30	-0.15	-0.41	-0.41	0.98	0.52	0.08	-0.24
0.080	-0.11	0.71	0.30	-0.15	-0.41	-0.39	0.98	0.52	0.08	-0.24
0.085	-0.11	0.71	0.30	-0.15	-0.41	-0.41	0.98	0.56	0.08	-0.24
0.090	-0.11	0.71	0.30	-0.15	-0.41	-0.41	0.98	0.58	0.08	-0.24
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19.900	7.00	10.52	7.26	3.30	-3.17	-5.48	-2.08	-3.52	-3.76	-3.93
19.905	1.84	12.74	9.87	6.63	-9.73	-11.53	2.91	2.77	4.65	-1.75
19.910	-2.82	14.35	11.81	9.15	-15.81	-16.94	7.79	8.97	12.56	0.42
19.915	-7.08	15.42	13.22	10.93	-20.95	-21.37	12.08	14.39	19.33	2.64
19.920	-11.14	15.51	13.69	11.92	-24.71	-24.45	15.75	18.94	24.92	4.70
19.925	-15.84	16.29	14.63	13.83	-28.58	-27.72	20.77	23.69	30.31	5.95
19.930	-22.22	4.94	8.82	5.21	-28.56	-21.56	25.69	27.18	33.35	5.85
19.935	-28.71	-21.76	-17.64	-18.66	-23.86	-4.35	34.88	30.34	32.89	4.26
19.940	-29.62	-25.84	-34.02	-27.80	-30.11	-8.02	44.26	40.03	37.20	4.99
19.945	-21.63	2.70	-7.70	-9.13	-44.39	-34.59	32.78	41.87	45.70	14.87
19.950	-19.48	5.27	18.64	25.36	-38.39	-47.46	6.28	26.70	46.91	24.16
19.955	-28.24	-14.44	14.58	43.65	-10.95	-34.62	-11.42	14.62	43.89	18.27
19.960	-21.32	10.41	9.81	11.50	-4.80	-9.21	14.80	15.13	19.43	2.58
19.965	-6.40	21.23	6.89	-10.22	-11.92	3.53	40.79	21.18	0.75	-8.73
19.970	-8.14	-8.26	-3.26	3.97	3.21	3.31	10.42	11.81	8.59	-3.59
MAXIMUM	280.93	1142.57	588.77	575.31	221.95	430.83	641.19	521.93	401.70	229.55
@TIME	4.660	5.260	5.260	5.250	5.810	5.520	5.260	5.265	4.655	13.225
MINIMUM	-333.01	-431.87	-414.25	-404.43	-946.11	-504.63	-478.40	-253.37	-394.17	-193.16
@TIME	12.495	5.250	5.525	13.620	5.260	5.260	12.495	5.585	10.840	5.595

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DATE 3/16/01
CALC. NO. SL0171-2 REV. NO. 2
SHEET NO. 99

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.3	-0.6	-0.6	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	1.0	0.9	0.1	-0.2	-0.2	0.0	0.8	0.9	0.3	0.2
0.015	0.2	0.2	1.0	1.0	0.3	0.2	0.1	0.2	0.9	0.8	0.2	0.2
0.020	0.2	0.3	1.2	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.025	0.2	0.3	1.2	1.2	0.4	0.2	0.1	0.2	1.0	1.0	0.3	0.2
0.030	0.2	0.3	1.1	1.2	0.4	0.2	0.1	0.2	0.9	0.9	0.2	0.2
0.035	0.2	0.3	1.1	1.2	0.4	0.1	0.0	0.1	0.9	0.9	0.2	0.2
0.040	0.2	0.3	1.1	1.2	0.3	0.1	-0.1	0.0	0.8	0.9	0.2	0.2
0.045	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.8	0.9	0.2	0.2
0.050	0.2	0.3	1.1	1.1	0.3	0.0	-0.1	0.0	0.8	0.9	0.2	0.2
0.055	0.2	0.3	1.1	1.1	0.3	0.0	-0.1	0.0	0.9	0.9	0.2	0.2
0.060	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.8	0.9	0.2	0.2
0.065	0.2	0.3	1.2	1.2	0.4	0.2	-0.1	0.0	0.8	0.8	0.2	0.2
0.070	0.2	0.3	1.2	1.2	0.4	0.2	0.0	0.0	0.8	0.8	0.2	0.2
0.075	0.2	0.3	1.1	1.2	0.4	0.2	0.0	0.0	0.8	0.9	0.2	0.2
0.080	0.2	0.3	1.1	1.1	0.4	0.1	0.0	0.0	0.8	0.9	0.2	0.2
0.085	0.2	0.3	1.1	1.1	0.4	0.1	0.0	0.0	0.8	0.9	0.2	0.2
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19.900	-2.8	16.3	56.8	72.8	68.6	31.2	-35.7	-71.2	-66.7	-50.2	-17.0	3.1
19.905	-4.5	18.3	65.5	85.2	83.1	38.6	-42.2	-85.5	-80.2	-60.5	-20.1	4.1
19.910	-5.9	20.8	74.3	97.1	96.7	45.0	-49.3	-99.7	-93.1	-70.1	-22.8	5.2
19.915	-7.0	23.2	82.1	107.7	108.8	50.9	-55.2	-111.9	-104.1	-78.0	-24.7	6.3
19.920	-8.0	25.1	88.5	116.6	119.4	56.6	-58.8	-120.7	-112.2	-84.0	-26.0	7.3
19.925	-7.2	22.0	60.9	91.5	123.1	68.3	-46.8	-113.1	-109.5	-83.8	-26.5	7.0
19.930	-9.6	9.3	35.9	63.8	106.9	67.0	-39.1	-98.9	-93.2	-72.6	-21.5	8.3
19.935	-11.0	21.5	91.7	116.0	110.5	45.1	-72.3	-126.0	-103.6	-71.9	-16.1	11.8
19.940	-9.0	41.7	136.7	170.7	150.0	54.8	-89.2	-163.0	-145.1	-100.3	-25.4	12.1
19.945	-8.8	27.9	100.0	139.6	146.8	72.9	-60.6	-141.1	-139.1	-105.4	-32.8	8.9
19.950	4.2	36.3	85.6	104.3	94.6	38.8	-46.6	-96.1	-84.1	-61.9	-27.4	-0.5
19.955	20.8	70.6	121.1	123.7	79.9	11.9	-58.0	-94.7	-76.3	-56.1	-32.6	-6.8
19.960	17.7	70.4	128.5	143.8	107.6	14.9	-116.4	-170.2	-126.7	-94.0	-36.9	5.9
19.965	3.9	43.3	97.8	107.1	66.1	-45.3	-210.0	-251.4	-149.5	-80.1	-12.7	22.5
19.970	2.5	14.9	18.4	-11.5	-65.5	-127.3	-179.1	-174.6	-107.5	-41.0	3.9	13.2
MAXIMUM	82.5	440.8	1391.7	1597.1	1560.5	1760.5	2179.0	2226.8	1945.5	1460.6	595.4	108.0
@TIME	13.870	4.670	5.250	5.250	7.325	11.010	11.010	11.010	11.005	11.005	11.005	4.670
MINIMUM	-641.2	-589.6	-1547.6	-1338.9	-1543.5	-1448.7	-1592.9	-1660.0	-1351.9	-1731.6	-625.2	-143.8
@TIME	4.650	5.265	5.260	10.980	13.210	13.210	11.030	12.495	11.535	5.260	5.260	5.275

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. 6(P07)-2 REV. NO. 2
SHEET NO. 100

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	0.9	-0.1	-0.4	-0.4	-0.1	0.9	1.1	0.3	0.2
0.010	0.2	0.3	1.1	1.0	0.3	0.1	0.0	0.2	0.9	1.0	0.3	0.2
0.015	0.2	0.3	1.0	1.1	0.5	0.4	0.4	0.4	1.0	0.9	0.2	0.2
0.020	0.2	0.4	1.2	1.3	0.6	0.4	0.4	0.4	1.1	1.0	0.4	0.2
0.025	0.2	0.4	1.2	1.2	0.6	0.5	0.4	0.4	1.0	1.0	0.3	0.2
0.030	0.2	0.3	1.1	1.2	0.6	0.5	0.4	0.4	0.9	0.9	0.3	0.2
0.035	0.2	0.3	1.0	1.1	0.5	0.4	0.3	0.2	0.8	0.8	0.3	0.2
0.040	0.2	0.3	1.0	1.0	0.4	0.3	0.2	0.1	0.7	0.7	0.2	0.2
0.045	0.2	0.3	0.9	0.9	0.4	0.3	0.1	0.1	0.6	0.7	0.2	0.2
0.050	0.2	0.2	0.8	0.9	0.4	0.3	0.2	0.1	0.6	0.6	0.2	0.2
0.055	0.2	0.2	0.8	0.8	0.4	0.3	0.2	0.1	0.6	0.6	0.2	0.2
0.060	0.2	0.2	0.8	0.9	0.4	0.3	0.2	0.1	0.6	0.6	0.2	0.2
0.065	0.2	0.3	0.9	0.9	0.5	0.4	0.2	0.1	0.5	0.5	0.1	0.2
0.070	0.2	0.3	0.8	0.9	0.5	0.4	0.2	0.1	0.4	0.5	0.1	0.2
0.075	0.2	0.2	0.8	0.9	0.5	0.4	0.2	0.1	0.5	0.5	0.1	0.2
0.080	0.2	0.2	0.8	0.8	0.4	0.4	0.2	0.1	0.5	0.5	0.2	0.2
0.085	0.2	0.2	0.8	0.8	0.4	0.4	0.2	0.1	0.5	0.5	0.2	0.2
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19.900	-1.9	16.5	54.6	69.9	66.9	31.2	-33.9	-68.7	-64.5	-47.8	-14.6	4.4
19.905	-3.5	17.7	58.3	77.8	82.1	41.4	-37.8	-82.9	-83.5	-64.6	-20.0	4.9
19.910	-4.7	19.9	63.7	87.5	98.4	52.1	-40.7	-95.9	-101.4	-80.4	-25.3	5.3
19.915	-5.8	21.6	68.4	95.8	112.4	61.3	-43.7	-107.5	-116.9	-94.1	-29.8	5.7
19.920	-6.8	23.1	71.9	101.9	122.9	67.7	-47.4	-117.9	-129.7	-105.2	-33.4	6.1
19.925	-6.5	26.8	76.7	106.8	126.9	67.2	-52.0	-126.0	-140.6	-114.3	-36.6	5.7
19.930	-7.8	28.6	81.3	110.6	129.1	63.7	-62.6	-139.4	-153.6	-124.0	-39.2	6.1
19.935	-10.0	24.2	76.9	110.0	134.8	66.8	-69.9	-154.2	-168.9	-135.7	-43.8	6.0
19.940	-8.2	23.3	71.7	104.1	130.9	67.5	-64.4	-148.3	-164.4	-134.5	-46.9	4.0
19.945	-16.1	24.6	96.5	130.9	156.6	79.6	-86.5	-169.3	-159.1	-124.0	-36.9	10.5
19.950	-24.7	38.7	171.9	222.6	215.8	90.4	-136.9	-234.4	-183.4	-123.4	-31.8	16.2
19.955	-13.0	59.7	190.7	242.4	224.6	93.1	-120.1	-226.3	-202.9	-143.1	-37.9	15.9
19.960	-3.1	30.0	83.7	120.4	135.2	79.0	-27.0	-109.4	-141.5	-118.5	-43.8	1.0
19.965	-7.2	-7.8	1.0	10.9	26.2	17.8	-13.2	-32.2	-25.3	-24.1	-17.4	-3.1
19.970	-1.9	-1.9	-6.1	-17.4	-25.4	-39.3	-55.3	-46.9	-17.2	-1.4	1.5	1.2
MAXIMUM	113.0	597.7	1321.5	1725.8	1655.5	1811.8	1834.1	1959.3	1890.7	1373.7	577.8	107.7
@TIME	4.660	4.660	4.665	4.665	7.325	7.325	11.010	11.005	11.005	11.005	11.005	11.010
MINIMUM	-136.3	-711.6	-1818.9	-1998.0	-1632.4	-1601.5	-1497.6	-1920.8	-2499.5	-2241.0	-881.8	-207.1
@TIME	7.310	5.265	5.260	5.285	7.305	7.305	10.985	5.275	5.270	5.270	5.275	12.520

CEC JOB NO. 1161-000
BY DLT DATE 3/16/01
CHECK AWW DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 2
SHEET NO 101

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.8	1.0	0.5	0.4	
0.005	-0.9	-0.2	1.3	1.1	-0.7	-0.5	0.0	2.3	3.0	1.8	1.0	
0.010	-0.7	-0.2	0.8	0.6	-0.7	0.3	1.6	3.6	4.0	2.6	1.2	
0.015	-1.0	-0.5	0.6	0.7	-0.2	1.6	3.0	4.4	4.2	2.3	1.0	
0.020	-1.7	-0.7	1.0	1.4	0.5	2.2	3.5	4.9	4.6	2.4	1.0	
0.025	-1.4	-0.3	1.3	1.7	0.8	2.5	3.9	5.2	4.8	2.6	1.1	
0.030	-0.6	0.4	1.6	1.7	0.6	2.6	4.3	5.5	4.9	2.5	0.9	
0.035	0.1	1.0	2.0	1.9	0.6	2.6	4.5	5.6	5.0	2.5	0.9	
0.040	0.5	1.6	2.5	2.2	0.7	2.7	4.5	5.6	5.0	2.4	0.9	
0.045	0.8	1.9	2.8	2.5	0.9	2.9	4.7	5.6	4.9	2.2	0.7	
0.050	1.0	2.2	3.0	2.7	1.0	3.2	5.1	5.9	5.0	2.2	0.7	
0.055	1.1	2.4	3.2	2.8	1.1	3.5	5.5	6.2	5.2	2.3	0.7	
0.060	1.1	2.4	3.3	2.9	1.3	3.7	5.9	6.6	5.5	2.4	0.7	
0.065	1.1	2.4	3.3	3.0	1.5	4.0	6.2	6.8	5.6	2.5	0.7	
0.070	1.0	2.5	3.4	3.1	1.6	4.1	6.4	6.9	5.7	2.5	0.7	
0.075	1.1	2.6	3.5	3.2	1.6	4.2	6.5	7.0	5.7	2.5	0.7	
0.080	1.1	2.6	3.5	3.2	1.6	4.2	6.5	7.0	5.7	2.5	0.7	
0.085	1.1	2.6	3.5	3.2	1.6	4.2	6.5	7.0	5.7	2.5	0.7	
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19.900	0.2	-13.9	-31.8	-52.1	-73.1	-59.9	-37.6	-17.9	-6.0	-6.9	-2.1	
19.905	17.2	15.7	-11.0	-38.7	-65.8	-25.1	22.5	25.3	18.3	-5.1	-8.3	
19.910	31.0	40.9	8.2	-23.5	-53.4	11.6	80.0	66.2	40.5	-4.0	-14.2	
19.915	42.6	63.9	27.8	-6.0	-37.8	46.4	130.5	101.3	59.2	-2.9	-19.0	
19.920	53.3	84.9	47.4	12.5	-20.8	76.6	170.9	128.9	73.9	-1.3	-22.4	
19.925	69.6	116.7	82.5	50.8	8.5	52.1	133.3	127.7	89.2	50.5	16.6	
19.930	107.3	162.7	128.0	79.2	-4.0	-21.3	38.9	72.2	86.7	82.2	36.1	
19.935	186.5	194.7	110.0	15.4	-87.9	-31.7	58.0	27.1	6.3	-44.3	-42.8	
19.940	232.2	193.2	61.0	-48.8	-117.8	6.9	117.3	32.2	-51.6	-126.0	-81.9	
19.945	158.1	170.9	91.1	14.0	-53.2	22.9	102.0	41.6	0.9	-33.6	-30.4	
19.950	69.2	134.6	120.7	82.6	19.1	80.2	127.7	26.7	-4.0	13.3	4.4	
19.955	53.0	96.5	84.7	75.6	62.9	153.9	184.5	59.7	-19.6	-56.7	-36.8	
19.960	28.1	77.5	58.2	60.5	80.8	151.0	188.9	139.6	63.0	-30.1	-37.0	
19.965	-10.0	38.3	17.8	29.8	70.8	138.0	176.6	159.2	130.0	79.3	24.3	
19.970	-17.8	-18.2	-24.6	-0.2	48.7	124.8	168.0	153.8	119.1	64.6	17.8	
MAXIMUM	1281.7	1178.7	1524.0	1679.5	2062.2	1885.9	2585.2	2319.9	1830.5	880.9	385.9	
@TIME	5.525	11.000	5.260	5.535	5.535	5.290	5.290	5.295	5.295	12.535	4.665	
MINIMUM	-992.1	-1212.7	-2868.2	-2674.6	-3250.0	-2431.4	-1400.9	-2009.6	-2155.7	-1558.3	-1275.6	
@TIME	12.505	4.660	4.655	4.655	5.260	5.260	5.585	4.675	4.675	5.270	5.270	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DATE 3/16/01
CALC. NO. G1P07-2 REV NO. 3
SHEET NO. 102

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.41	-0.15	0.00	0.15	0.41	0.00	-0.28	-0.02
0.010	0.02	0.28	0.00	-0.33	-0.13	0.00	0.10	0.33	0.00	-0.20	0.00
0.015	0.00	0.28	0.00	-0.25	-0.02	0.00	0.02	0.25	0.00	-0.25	0.06
0.020	0.10	0.31	0.00	-0.28	-0.13	0.00	0.02	0.28	0.00	-0.28	-0.05
0.025	0.08	0.31	0.00	-0.28	-0.07	0.00	0.02	0.28	0.00	-0.28	0.00
0.030	0.05	0.28	0.00	-0.25	-0.05	-0.06	0.02	0.28	0.00	-0.25	0.00
0.035	0.07	0.28	0.00	-0.30	-0.10	-0.06	0.02	0.28	0.00	-0.28	0.00
0.040	0.07	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.25	0.00
0.045	0.02	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.28	0.00
0.050	0.02	0.31	0.00	-0.33	-0.07	-0.06	0.02	0.33	0.00	-0.25	0.00
0.055	0.02	0.31	0.00	-0.33	-0.07	-0.06	0.05	0.33	0.00	-0.25	0.00
0.060	0.07	0.33	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.25	0.00
0.065	0.13	0.33	0.00	-0.30	-0.10	-0.11	0.02	0.30	0.00	-0.17	0.03
0.070	0.13	0.33	0.00	-0.30	-0.10	-0.11	0.02	0.30	0.00	-0.20	0.03
0.075	0.07	0.33	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.23	0.00
0.080	0.07	0.33	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.23	0.00
0.085	0.07	0.33	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.23	0.00
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19.900	8.08	14.65	5.82	-1.52	-15.75	-33.76	-14.96	1.58	5.97	12.06	8.49
19.905	9.67	17.08	7.15	-0.79	-18.79	-40.79	-18.26	1.97	7.12	14.63	10.24
19.910	11.30	19.40	8.26	-0.14	-21.78	-47.61	-21.35	2.39	8.34	17.13	11.78
19.915	12.73	21.34	9.32	0.42	-24.46	-53.52	-23.99	2.84	9.43	19.35	13.11
19.920	13.92	22.96	10.20	0.98	-26.47	-58.30	-26.15	3.07	10.18	21.02	14.04
19.925	12.32	14.12	11.05	11.45	-23.11	-58.11	-27.98	1.27	9.34	20.71	14.20
19.930	8.02	9.62	10.10	15.62	-16.84	-53.58	-25.23	2.02	7.48	18.51	12.58
19.935	13.69	25.46	8.79	-1.98	-27.57	-59.28	-22.65	8.11	11.47	20.21	11.78
19.940	21.41	34.41	12.36	-7.53	-40.13	-72.69	-31.18	6.49	16.26	27.16	15.77
19.945	15.47	26.12	14.33	2.60	-31.22	-67.49	-33.95	0.73	12.23	26.30	17.57
19.950	13.57	17.87	6.79	-3.48	-23.58	-43.13	-20.90	4.34	8.03	12.48	11.37
19.955	20.98	18.31	0.98	-15.86	-28.72	-35.33	-15.51	6.65	7.33	8.51	10.88
19.960	22.22	21.05	5.56	-13.11	-39.09	-66.32	-22.67	15.77	11.84	20.68	18.05
19.965	16.59	19.75	3.40	-14.86	-47.02	-83.19	-17.51	36.97	25.17	24.41	14.84
19.970	5.19	1.29	-10.88	-19.58	-26.09	-26.17	1.93	24.31	24.14	16.22	3.94
MAXIMUM	222.85	472.51	221.69	628.14	393.27	296.53	243.01	268.95	202.02	400.86	232.06
@TIME	5.250	4.655	4.660	5.260	5.260	12.390	4.955	10.985	12.495	5.260	5.260
MINIMUM	-214.63	-360.42	-163.33	-268.59	-343.41	-523.21	-397.99	-715.86	-242.83	-313.50	-218.37
@TIME	5.260	5.260	13.210	4.650	5.250	5.250	5.260	5.260	11.010	11.005	11.005

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK Quinn DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 102

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.26	0.00	-0.40	-0.06	0.00	0.06	0.40	0.00	-0.26	-0.04
0.010	0.04	0.28	0.00	-0.28	-0.09	0.00	0.09	0.28	0.00	-0.23	0.00
0.015	0.00	0.28	0.00	-0.26	-0.03	0.00	-0.01	0.26	0.00	-0.26	0.00
0.020	0.12	0.28	0.00	-0.26	-0.09	0.00	0.03	0.26	0.00	-0.28	-0.08
0.025	0.08	0.28	0.00	-0.22	-0.09	0.00	-0.01	0.24	0.00	-0.24	-0.03
0.030	0.08	0.27	0.00	-0.19	-0.06	-0.06	-0.01	0.19	0.00	-0.24	0.00
0.035	0.08	0.27	0.00	-0.22	-0.05	-0.06	-0.01	0.22	0.00	-0.22	0.00
0.040	0.08	0.24	0.00	-0.24	-0.05	-0.06	-0.01	0.24	0.00	-0.22	0.00
0.045	0.03	0.24	0.00	-0.24	-0.05	-0.06	-0.03	0.24	0.00	-0.22	0.03
0.050	0.00	0.24	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.03
0.055	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.01	0.20	0.00	-0.20	0.03
0.060	0.08	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.20	0.03
0.065	0.08	0.20	0.00	-0.18	-0.05	-0.06	-0.03	0.18	0.00	-0.10	0.03
0.070	0.08	0.20	0.00	-0.15	-0.05	-0.06	-0.03	0.18	0.00	-0.07	0.03
0.075	0.08	0.20	0.00	-0.15	-0.05	-0.06	-0.03	0.18	0.00	-0.13	0.03
0.080	0.08	0.20	0.00	-0.15	-0.05	-0.06	-0.03	0.18	0.00	-0.13	0.03
0.085	0.08	0.20	0.00	-0.15	-0.05	-0.06	-0.03	0.18	0.00	-0.13	0.03
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19.900	7.77	13.78	5.54	-1.04	-15.08	-32.87	-14.71	1.53	6.06	12.03	8.01
19.905	8.90	14.68	7.06	1.58	-17.26	-40.01	-19.08	-0.24	6.86	16.15	10.53
19.910	10.35	15.93	8.63	3.94	-19.48	-46.82	-23.30	-2.03	7.59	20.01	12.92
19.915	11.57	16.90	9.95	5.98	-21.55	-53.00	-26.97	-3.39	8.24	23.30	14.98
19.920	12.57	17.66	10.87	7.58	-23.33	-58.12	-29.81	-4.26	8.85	26.01	16.67
19.925	14.05	18.11	10.87	7.25	-25.12	-60.21	-31.19	-5.33	9.56	28.15	17.82
19.930	15.35	19.07	10.65	6.68	-27.60	-63.83	-32.39	-5.15	10.80	30.73	19.09
19.935	14.40	19.14	11.97	9.01	-28.67	-69.08	-35.59	-5.30	12.03	33.30	21.01
19.940	13.30	17.50	11.75	9.71	-26.75	-66.63	-35.43	-5.80	10.81	31.77	21.50
19.945	17.17	26.08	12.40	9.33	-32.47	-83.97	-34.92	3.67	12.69	31.60	19.97
19.950	26.75	48.29	18.38	-2.49	-52.96	-114.79	-41.10	18.48	21.73	33.20	20.29
19.955	30.73	47.44	18.74	-6.49	-55.48	-107.76	-44.80	8.49	21.64	38.08	22.68
19.960	13.97	19.45	13.31	5.40	-23.72	-53.51	-34.78	-11.62	8.33	27.04	18.94
19.965	-0.21	3.20	3.58	5.54	-3.52	-15.62	-8.06	2.50	0.48	2.45	5.96
19.970	-0.03	-1.47	-4.09	-2.93	-5.87	-8.12	3.54	10.78	5.72	1.07	-0.11
MAXIMUM	204.53	330.05	189.63	717.20	353.22	307.99	279.90	300.29	189.89	566.93	306.00
@TIME	4.660	4.665	7.330	5.260	5.260	4.965	13.205	4.640	4.640	5.270	5.275
MINIMUM	-248.24	-446.12	-165.56	-253.54	-299.44	-410.78	-257.13	-449.67	-214.68	-290.01	-205.23
@TIME	5.265	5.260	13.205	4.645	4.640	4.640	5.275	5.270	11.010	4.980	11.005

CEC JOB NO. 1101-000
BY DIT DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. S(8017)-2 REV. NO. 2
SHEET NO. 104

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.27	0.00	-0.40	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.23	0.48	0.00	-0.73	0.00	0.06	0.77	0.30	-0.43	-0.30
0.010	0.19	0.35	0.00	-0.48	0.30	0.30	0.71	0.19	-0.54	-0.30
0.015	0.19	0.41	0.00	-0.32	0.52	0.30	0.45	0.00	-0.65	-0.30
0.020	0.38	0.59	0.22	-0.29	0.41	0.30	0.43	0.00	-0.78	-0.36
0.025	0.41	0.59	0.19	-0.29	0.41	0.30	0.43	-0.03	-0.80	-0.48
0.030	0.38	0.43	0.00	-0.37	0.52	0.41	0.43	-0.30	-0.87	-0.51
0.035	0.38	0.39	0.00	-0.48	0.52	0.44	0.43	-0.30	-0.95	-0.60
0.040	0.38	0.36	0.00	-0.50	0.52	0.44	0.43	-0.30	-0.93	-0.60
0.045	0.46	0.34	-0.11	-0.50	0.52	0.44	0.35	-0.30	-0.98	-0.39
0.050	0.49	0.36	-0.11	-0.55	0.52	0.47	0.25	-0.30	-1.06	-0.42
0.055	0.49	0.29	-0.11	-0.61	0.58	0.52	0.20	-0.30	-1.06	-0.60
0.060	0.49	0.30	-0.11	-0.58	0.71	0.52	0.20	-0.30	-1.08	-0.60
0.065	0.49	0.36	-0.08	-0.56	0.71	0.54	0.17	-0.41	-1.13	-0.60
0.070	0.59	0.36	-0.11	-0.56	0.71	0.57	0.17	-0.41	-1.19	-0.60
0.075	0.59	0.35	-0.11	-0.53	0.71	0.60	0.17	-0.49	-1.19	-0.60
0.080	0.59	0.35	-0.06	-0.53	0.71	0.55	0.17	-0.49	-1.19	-0.60
0.085	0.59	0.36	-0.11	-0.53	0.71	0.55	0.17	-0.49	-1.19	-0.60
0.090	0.59	0.38	-0.11	-0.59	0.71	0.55	0.17	-0.44	-1.19	-0.60
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19.900	-5.38	-6.45	-7.37	-7.60	3.44	5.77	7.21	4.31	-0.37	1.44
19.905	-0.58	-9.67	-10.06	-9.80	10.51	12.33	1.04	-2.56	-8.49	-0.92
19.910	3.83	-11.86	-11.46	-10.80	16.86	17.69	-4.98	-9.32	-16.16	-3.03
19.915	8.10	-13.08	-12.25	-11.55	21.85	21.80	-10.59	-15.24	-22.49	-4.78
19.920	12.06	-13.59	-12.64	-12.11	25.21	24.41	-15.23	-19.90	-27.28	-6.28
19.925	17.92	-12.38	-11.51	-15.34	11.31	21.01	-2.02	-13.94	-13.97	-10.05
19.930	21.16	-12.56	-17.72	-30.10	-4.47	15.62	12.06	5.26	-1.60	-13.68
19.935	3.16	-30.65	-34.25	-37.39	14.50	23.26	-11.18	-7.53	-18.33	0.46
19.940	-14.87	-47.89	-39.77	-24.95	32.33	28.63	-30.86	-30.36	-26.93	13.07
19.945	4.92	-28.92	-27.95	-24.33	19.69	20.52	-21.89	-14.77	-12.51	0.89
19.950	24.97	-5.06	-13.80	-23.03	15.85	12.30	-36.58	-11.13	6.25	-2.64
19.955	16.62	-4.24	-3.28	-4.59	23.48	7.90	-45.26	-28.69	-13.46	5.95
19.960	18.83	-6.99	0.82	7.37	18.22	9.84	-17.86	-27.77	-33.76	-2.02
19.965	18.36	-7.45	4.36	14.81	17.40	9.98	-6.30	-10.55	-18.40	-16.30
19.970	-0.13	-2.30	8.85	17.72	19.71	11.23	-5.14	-12.57	-19.72	-13.92
MAXIMUM	628.46	422.51	321.45	799.49	424.49	863.63	348.28	211.83	317.44	265.32
@TIME	5.260	5.535	5.535	4.655	4.655	5.260	5.075	10.845	4.675	4.675
MINIMUM	-580.71	-692.13	-510.02	-1219.69	-263.29	-291.94	-381.12	-339.74	-630.37	-202.66
@TIME	4.655	4.655	5.260	5.260	5.815	11.000	4.970	5.290	5.270	5.295

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. 6(B0172)-2 REV. NO. 3
SHEET NO. 105

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	1.4	5.1	12.6	10.1	-1.8	-6.8	-6.8	-1.8	10.1	12.6	5.1	1.4
0.005	3.8	14.4	30.2	24.0	-1.2	-13.7	-13.7	-1.2	24.0	30.1	14.4	3.8
0.010	1.5	6.7	15.0	15.3	8.4	4.7	4.7	8.4	15.3	15.0	6.7	1.5
0.015	-1.7	-4.9	-4.0	3.4	13.3	19.8	19.8	13.3	3.3	-4.1	-5.0	-1.7
0.020	0.5	3.1	6.9	7.6	5.0	3.5	3.4	4.9	7.5	6.9	3.0	0.5
0.025	0.3	3.1	6.4	5.1	0.4	-2.7	-2.7	0.3	4.9	6.3	3.0	0.3
0.030	-0.9	-3.5	-4.5	-2.5	0.9	3.4	3.3	0.8	-2.6	-4.6	-3.5	-0.9
0.035	0.4	1.0	0.9	-0.6	-2.6	-3.5	-3.5	-2.6	-0.7	0.8	0.9	0.4
0.040	0.3	1.3	1.9	0.2	-3.1	-5.1	-5.2	-3.1	0.1	1.9	1.3	0.3
0.045	-0.3	-1.5	-2.8	-2.4	-0.9	0.3	0.3	-0.9	-2.5	-2.9	-1.6	-0.3
0.050	0.0	0.0	-0.1	-0.3	-0.5	-0.6	-0.6	-0.6	-0.4	-0.1	0.0	0.0
0.055	0.2	0.7	1.2	0.9	0.1	-0.6	-0.7	0.0	0.9	1.2	0.7	0.1
0.060	-0.1	-0.5	-0.7	-0.2	0.8	1.5	1.5	0.8	-0.2	-0.7	-0.5	-0.1
0.065	0.0	-0.1	0.0	0.2	0.5	0.5	0.5	0.4	0.2	0.0	-0.1	-0.1
0.070	0.0	0.3	0.4	0.3	0.0	-0.2	-0.2	-0.1	0.2	0.4	0.2	0.0
0.075	-0.1	-0.3	-0.5	-0.4	-0.1	0.0	0.0	-0.1	-0.4	-0.5	-0.3	-0.1
0.080	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.1
0.085	0.0	0.0	-0.1	-0.2	-0.5	-0.7	-0.7	-0.6	-0.3	-0.1	-0.1	0.0
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19.900	4.9	11.7	12.2	14.8	17.7	9.4	-2.8	-18.2	-32.1	-30.5	-15.4	-4.6
19.905	4.5	10.0	8.7	11.0	15.6	8.9	-2.3	-17.2	-32.1	-30.6	-14.6	-4.1
19.910	4.0	8.7	6.5	8.6	13.7	7.9	-2.4	-16.3	-31.0	-29.5	-13.7	-3.7
19.915	3.6	7.7	5.6	7.6	12.3	6.8	-2.7	-15.7	-29.2	-27.7	-12.9	-3.5
19.920	3.3	7.2	5.8	7.6	11.3	5.8	-3.2	-15.1	-26.9	-25.4	-12.1	-3.3
19.925	2.9	6.7	6.5	8.1	10.3	4.7	-3.6	-14.1	-24.2	-22.7	-11.0	-3.1
19.930	3.6	8.8	11.1	13.5	14.3	5.9	-5.2	-17.6	-26.5	-24.3	-12.6	-4.0
19.935	7.3	19.8	30.6	35.4	29.9	10.4	-11.4	-33.3	-44.5	-39.5	-22.6	-7.7
19.940	10.8	32.2	51.2	56.8	43.5	14.1	-16.4	-46.8	-63.5	-57.1	-33.5	-10.8
19.945	7.9	24.2	37.2	41.3	33.0	11.7	-11.3	-35.0	-49.0	-45.0	-26.6	-8.2
19.950	2.6	4.8	3.3	4.1	6.4	3.1	-2.4	-8.3	-10.9	-10.7	-8.0	-3.3
19.955	0.9	-1.1	-7.5	-9.8	-6.0	-2.8	-0.1	2.7	5.3	3.7	-0.4	-1.3
19.960	1.0	2.4	2.6	2.0	0.8	-1.4	-3.5	-5.4	-5.4	-5.1	-4.4	-1.8
19.965	0.5	3.0	7.4	8.0	3.4	-1.5	-5.6	-9.1	-9.6	-7.9	-5.2	-1.5
19.970	-0.9	-1.5	-1.4	-2.2	-3.7	-3.6	-2.6	-0.8	1.0	1.4	0.6	0.1
MAXIMUM	87.6	277.0	473.4	498.0	485.7	477.9	414.3	409.4	422.1	403.5	230.7	70.6
@TIME	6.005	6.010	6.010	6.010	6.015	6.015	6.015	6.020	10.845	10.845	10.845	10.845
MINIMUM	-36.5	-195.0	-509.1	-500.6	-361.4	-330.2	-355.2	-328.8	-495.5	-498.9	-169.4	-32.5
@TIME	5.270	5.270	10.985	5.270	6.000	5.995	5.995	5.990	5.270	5.270	5.265	10.990

CEC JOB NO. 1101-002
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 106

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	-7.8	10.3	63.4	53.4	-19.5	-52.1	-52.1	-19.5	53.4	63.4	10.3	-7.8
0.005	1.1	32.6	83.1	64.6	-16.4	-63.5	-63.5	-16.4	64.6	83.1	32.6	1.1
0.010	2.3	-3.3	-17.1	-8.4	23.2	40.9	40.8	23.2	-8.5	-17.2	-3.4	2.3
0.015	-5.9	-18.2	-16.8	2.0	26.1	44.0	43.9	25.9	1.8	-16.9	-18.2	-5.9
0.020	5.7	21.3	32.8	25.4	4.8	-11.3	-11.5	4.5	25.1	32.6	21.3	5.7
0.025	0.1	-1.0	-1.9	-1.2	2.6	6.9	6.7	2.2	-1.6	-2.2	-1.1	0.1
0.030	-1.8	-8.3	-12.1	-7.4	0.1	4.4	4.3	-0.1	-7.7	-12.3	-8.3	-1.8
0.035	1.7	6.1	7.3	0.6	-8.4	-13.2	-13.3	-8.6	0.4	7.2	6.1	1.8
0.040	-0.4	-1.5	-1.3	-1.5	-3.5	-5.1	-5.2	-3.8	-1.7	-1.5	-1.5	-0.3
0.045	-0.2	-2.2	-4.3	-3.7	-0.2	2.6	2.5	-0.4	-3.9	-4.5	-2.2	-0.2
0.050	0.2	1.3	3.4	2.8	-0.4	-2.3	-2.5	-0.6	2.6	3.3	1.3	0.3
0.055	0.5	1.2	2.1	2.0	1.0	0.5	0.4	0.8	1.8	1.9	1.2	0.5
0.060	-0.1	-0.6	0.2	1.0	1.6	2.5	2.4	1.4	0.9	0.1	-0.6	-0.1
0.065	0.4	1.0	2.0	2.1	0.9	0.1	0.0	0.7	1.9	1.9	1.0	0.4
0.070	0.2	0.6	1.7	1.4	0.3	0.1	0.1	0.2	1.3	1.7	0.6	0.3
0.075	0.2	0.0	0.3	0.7	0.4	0.4	0.3	0.3	0.6	0.3	0.0	0.2
0.080	0.2	0.3	1.1	0.8	-0.1	-0.2	-0.2	-0.2	0.7	1.0	0.3	0.2
0.085	0.3	0.4	0.9	0.9	0.0	-0.4	-0.4	-0.1	0.8	0.9	0.4	0.3
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19.900	-11.9	2.0	40.8	59.5	66.6	31.3	-42.3	-73.9	-60.5	-38.7	-1.1	11.8
19.905	-11.3	1.0	35.6	52.3	58.8	26.6	-40.3	-68.5	-56.4	-36.2	-1.4	10.3
19.910	-10.5	0.6	32.1	47.5	53.4	23.6	-38.2	-64.0	-53.1	-34.4	-1.8	9.0
19.915	-9.7	0.8	30.4	44.8	50.3	22.2	-36.0	-60.5	-50.6	-33.1	-2.3	8.1
19.920	-9.0	1.3	30.0	43.9	48.9	22.0	-33.7	-57.5	-48.7	-32.3	-2.8	7.5
19.925	-7.5	2.3	28.7	41.6	44.9	20.3	-28.9	-51.0	-44.3	-29.6	-3.3	6.3
19.930	-16.6	-1.2	44.3	64.7	83.6	46.5	-52.5	-87.6	-65.5	-44.0	1.1	16.2
19.935	-23.9	11.0	103.7	146.9	162.7	81.3	-95.3	-169.8	-138.5	-92.3	-8.8	23.4
19.940	-12.4	37.3	138.9	182.8	170.2	72.6	-87.9	-176.4	-171.4	-122.7	-31.3	13.3
19.945	-8.3	18.5	74.0	98.1	96.4	45.9	-43.5	-94.7	-94.8	-70.5	-17.3	9.8
19.950	-11.9	-15.5	0.5	12.5	27.7	19.9	-16.4	-24.7	-3.8	6.6	15.9	13.5
19.955	-7.6	-11.1	-1.9	1.5	8.4	6.4	-10.8	-7.9	13.8	19.9	18.6	11.8
19.960	-1.7	1.0	15.3	20.4	15.9	7.0	-7.6	-14.7	-6.0	0.6	4.2	6.0
19.965	2.6	3.0	10.2	11.8	1.6	-1.4	2.6	1.1	4.2	6.4	1.8	2.1
19.970	0.2	-4.9	-11.3	-15.9	-15.5	-5.4	9.4	21.3	27.4	23.2	10.5	2.3
MAXIMUM	67.9	266.2	1138.3	1337.5	1243.2	1218.3	1154.2	878.8	1160.3	984.6	343.5	65.0
@TIME	10.855	6.010	5.250	5.250	6.010	6.015	6.015	6.015	10.840	10.840	10.845	5.255
MINIMUM	-366.9	-396.3	-1098.1	-1113.5	-1124.0	-1174.6	-1579.0	-1470.4	-867.1	-916.8	-351.4	-138.8
@TIME	6.000	5.265	5.265	5.265	10.840	5.995	5.990	5.990	5.265	5.265	10.990	10.835

CEC JOB NO. 1104-000
BY DH DATE 3/16/01
CHECK AMM DATE 3/16/01
CALC. NO. GL0071-2 REV. NO. 3
SHEET NO. 107

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-2.0	-3.1	-3.0	0.6	11.6	47.1	21.9	-113.7	-117.4	17.5	36.8	
0.005	-8.3	-6.5	2.8	22.1	49.2	79.9	3.4	-164.9	-190.0	-90.5	-21.0	
0.010	-4.4	8.4	26.0	39.9	41.6	22.9	-11.7	-29.4	-73.1	-139.7	-80.8	
0.015	14.6	21.5	18.6	4.9	-9.2	5.1	30.3	32.7	37.0	44.7	22.4	
0.020	10.0	-2.0	-15.5	-19.0	-6.6	28.7	57.4	73.3	83.4	66.4	25.7	
0.025	-15.3	-21.2	-17.6	-5.0	12.0	45.2	73.7	67.8	34.4	-5.5	-11.2	
0.030	-19.7	-13.4	-2.6	11.8	29.5	46.7	39.0	14.1	4.6	8.0	5.7	
0.035	-8.2	1.4	13.7	24.8	28.2	17.1	9.7	16.7	16.5	5.0	-1.0	
0.040	6.6	13.1	15.0	10.4	4.3	8.5	12.7	7.3	2.6	2.6	2.1	
0.045	9.4	6.3	1.7	0.5	3.4	4.0	2.1	3.6	4.1	2.0	0.6	
0.050	0.9	0.5	2.0	2.6	0.0	-2.8	-1.3	2.8	4.0	4.1	2.5	
0.055	0.8	1.3	-0.3	-3.0	-4.2	-3.3	-2.5	-0.1	2.3	3.6	2.5	
0.060	0.2	-2.6	-4.4	-4.7	-4.9	-5.6	-3.8	0.7	2.1	2.3	1.7	
0.065	-1.2	-2.4	-3.9	-5.9	-7.3	-6.4	-4.1	0.0	2.9	4.1	2.8	
0.070	-1.0	-2.4	-4.4	-6.0	-7.1	-7.0	-4.3	0.8	3.1	3.7	2.4	
0.075	-3.3	-3.9	-4.6	-5.7	-6.7	-6.1	-3.8	0.4	2.7	3.1	2.1	
0.080	-4.1	-4.9	-5.7	-6.0	-5.9	-5.0	-2.8	1.0	2.7	3.0	2.0	
0.085	-3.7	-5.0	-5.8	-6.3	-6.2	-4.4	-1.6	2.1	3.6	3.1	1.8	
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19.900	14.6	19.6	19.6	10.9	-9.8	-68.0	-91.6	-53.5	-19.0	22.4	23.2	
19.905	25.1	26.0	19.4	1.7	-30.0	-105.9	-138.1	-93.7	-47.6	9.8	20.7	
19.910	30.7	27.1	14.5	-10.0	-48.5	-131.7	-166.9	-119.9	-67.4	-1.5	16.9	
19.915	30.8	23.1	6.0	-22.2	-62.7	-143.5	-176.7	-130.3	-76.7	-9.9	12.8	
19.920	26.1	15.3	-4.1	-32.7	-70.9	-141.6	-169.1	-126.2	-75.9	-14.1	9.2	
19.925	18.3	5.8	-13.5	-39.6	-72.2	-128.7	-148.7	-111.1	-67.4	-14.5	6.7	
19.930	9.4	-2.9	-20.1	-41.6	-67.2	-109.9	-122.6	-89.7	-53.4	-11.2	5.8	
19.935	1.6	-9.2	-23.2	-39.8	-58.5	-86.7	-94.9	-74.1	-44.6	-3.0	9.8	
19.940	-3.8	-12.4	-22.6	-34.1	-46.8	-68.6	-75.6	-56.5	-32.5	0.2	9.9	
19.945	-5.9	-11.6	-18.7	-27.9	-40.1	-61.5	-63.0	-32.3	-11.0	5.0	8.7	
19.950	-4.6	-9.7	-17.9	-29.0	-41.5	-54.3	-47.9	-15.7	5.7	20.0	16.3	
19.955	-5.2	-12.7	-22.8	-33.6	-42.7	-47.1	-34.7	0.9	20.3	27.0	18.6	
19.960	-9.9	-18.6	-28.8	-38.7	-45.9	-40.7	-20.5	16.5	31.8	29.6	18.4	
19.965	-15.8	-25.7	-37.0	-46.6	-50.0	-30.8	-2.8	31.1	42.5	33.1	18.5	
19.970	-23.9	-34.4	-43.6	-47.5	-42.9	-16.6	14.5	34.3	38.3	27.1	11.0	
MAXIMUM	1285.5	1296.7	1328.7	1111.2	1055.9	1730.8	2226.5	2195.2	1493.9	558.6	339.1	
@TIME	5.270	5.270	5.265	5.260	5.815	5.795	5.795	5.790	5.800	8.025	10.990	
MINIMUM	-366.9	-398.9	-406.6	-525.5	-1050.5	-2680.1	-3072.5	-2493.2	-2502.5	-1261.6	-688.6	
@TIME	8.075	8.075	8.070	5.290	5.275	5.270	5.265	5.255	5.255	6.010	6.010	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. G(BV7)-2 REV. NO. 3
SHEET NO. 108

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	1.60	2.76	-0.93	-4.32	-2.14	0.00	2.14	4.32	0.93	-2.76	-1.60
0.005	4.49	5.72	-2.23	-9.11	-5.26	0.00	5.26	9.11	2.23	-5.72	-4.49
0.010	2.15	3.08	0.12	-2.55	-1.53	0.00	1.53	2.55	-0.12	-3.03	-2.15
0.015	-1.36	0.35	2.66	3.57	2.75	0.00	-2.75	-3.57	-2.66	-0.35	1.36
0.020	1.11	1.43	0.26	-0.97	-0.63	0.00	0.63	0.97	-0.26	-1.40	-1.11
0.025	1.19	1.20	-0.51	-1.67	-1.28	0.00	1.28	1.67	0.51	-1.20	-1.19
0.030	-1.10	-0.38	0.76	1.21	1.02	0.00	-1.05	-1.21	-0.76	0.38	1.10
0.035	0.22	-0.04	-0.54	-0.76	-0.37	0.00	0.37	0.73	0.59	0.04	-0.22
0.040	0.49	0.24	-0.64	-1.17	-0.85	0.00	0.85	1.17	0.64	-0.22	-0.46
0.045	-0.53	-0.42	0.16	0.53	0.50	0.00	-0.50	-0.53	-0.16	0.42	0.53
0.050	0.00	-0.06	-0.10	-0.05	-0.05	0.00	0.05	0.02	0.10	0.06	0.00
0.055	0.24	0.18	-0.11	-0.32	-0.32	0.00	0.27	0.32	0.11	-0.14	-0.24
0.060	-0.13	-0.10	0.18	0.37	0.26	0.00	-0.26	-0.37	-0.18	0.10	0.13
0.065	0.00	0.00	0.05	0.05	0.05	0.00	-0.05	-0.05	-0.05	0.00	0.00
0.070	0.08	0.05	0.00	-0.14	-0.08	0.00	0.08	0.14	0.00	-0.05	-0.05
0.075	-0.10	-0.05	0.00	0.05	0.05	0.00	-0.05	-0.05	0.00	0.05	0.10
0.080	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.085	0.00	0.00	0.00	-0.10	-0.03	0.00	0.00	0.10	0.00	0.00	0.00
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19.900	2.87	0.23	0.94	1.05	-3.51	-6.19	-6.45	-5.03	0.54	5.44	4.61
19.905	2.32	-0.48	0.87	1.67	-2.86	-5.65	-6.30	-5.37	0.58	5.80	4.42
19.910	1.98	-0.85	0.79	1.86	-2.45	-5.21	-5.93	-5.34	0.53	5.75	4.20
19.915	1.71	-0.77	0.69	1.68	-2.29	-4.82	-5.46	-4.95	0.53	5.36	4.02
19.920	1.60	-0.50	0.66	1.34	-2.29	-4.51	-5.00	-4.31	0.61	4.85	3.68
19.925	1.60	-0.04	0.56	0.83	-2.37	-4.20	-4.43	-3.66	0.56	4.19	3.34
19.930	2.19	0.85	0.83	0.31	-3.57	-5.62	-5.22	-3.22	0.80	4.21	3.62
19.935	5.27	3.92	1.68	-1.97	-8.21	-11.05	-9.19	-4.05	1.78	6.14	6.29
19.940	9.04	6.84	2.05	-4.82	-12.41	-15.41	-12.85	-6.04	2.30	8.54	9.55
19.945	6.90	4.70	1.43	-3.04	-9.01	-11.65	-9.98	-5.06	1.44	6.66	7.76
19.950	0.96	-0.53	0.28	0.87	-1.39	-2.79	-2.47	-0.97	0.05	0.98	1.97
19.955	-0.84	-2.29	-0.88	1.40	1.43	1.39	1.18	0.96	-0.62	-1.47	-0.41
19.960	0.61	0.07	-0.20	-0.41	-0.89	-1.05	-0.79	-0.01	0.07	0.21	1.06
19.965	1.07	1.59	0.18	-1.70	-2.00	-2.06	-1.45	-0.16	0.61	0.99	1.52
19.970	-0.26	0.05	-0.31	-0.55	0.03	0.54	0.68	0.69	0.09	-0.28	-0.19
MAXIMUM	80.03	71.14	56.11	183.65	107.08	77.62	77.89	56.10	35.91	120.92	61.30
@TIME	6.010	6.010	6.015	10.985	10.985	10.845	10.845	8.220	5.995	5.270	5.270
MINIMUM	-66.88	-121.61	-41.67	-53.92	-69.09	-72.74	-81.55	-169.46	-46.17	-62.61	-67.60
@TIME	5.270	10.985	6.000	6.010	6.010	5.255	5.265	5.265	6.020	10.845	10.845

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK BWM DATE 3/16/01
CALC. NO. G(P07)-2 REV. NO. 3
SHEET NO. 109

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	7.64	19.25	-3.60	-26.47	-13.74	0.00	13.74	26.47	3.60	-19.25	-7.64
0.005	13.29	18.33	-6.71	-29.33	-19.89	0.00	19.89	29.33	6.74	-18.33	-13.29
0.010	-2.36	-4.98	3.19	11.41	7.43	0.00	-7.43	-11.41	-3.19	5.03	2.36
0.015	-5.19	0.55	6.78	8.70	7.56	-0.06	-7.58	-8.70	-6.75	-0.47	5.19
0.020	6.65	4.19	-2.72	-7.50	-6.78	-0.08	6.70	7.46	2.72	-4.11	-6.55
0.025	-0.40	-0.34	0.25	1.40	1.86	-0.06	-1.88	-1.44	-0.19	0.34	0.50
0.030	-2.75	-1.33	1.69	2.76	1.84	-0.06	-1.84	-2.74	-1.65	1.42	2.80
0.035	1.88	0.44	-2.42	-3.26	-1.99	-0.06	1.96	3.28	2.47	-0.39	-1.88
0.040	-0.41	0.05	-0.08	-0.74	-0.64	-0.06	0.64	0.76	0.08	0.02	0.51
0.045	-0.80	-0.79	0.25	1.22	1.19	-0.06	-1.26	-1.22	-0.25	0.82	0.85
0.050	0.46	0.78	-0.24	-1.14	-0.79	-0.06	0.79	1.14	0.24	-0.70	-0.46
0.055	0.27	0.36	0.00	-0.33	-0.22	-0.06	0.22	0.36	0.00	-0.28	-0.27
0.060	-0.22	0.30	0.31	0.21	0.38	0.00	-0.40	-0.21	-0.28	-0.24	0.22
0.065	0.20	0.38	0.00	-0.42	-0.31	0.00	0.31	0.42	0.00	-0.35	-0.20
0.070	0.13	0.38	-0.07	-0.42	-0.05	0.00	0.02	0.42	0.10	-0.38	-0.13
0.075	-0.09	0.08	0.12	-0.07	0.00	0.00	-0.05	0.07	-0.06	-0.08	0.09
0.080	0.07	0.28	-0.07	-0.32	-0.02	0.00	0.02	0.32	0.10	-0.28	-0.07
0.085	0.07	0.21	0.00	-0.33	-0.17	0.00	0.15	0.33	0.00	-0.16	-0.07
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19.900	5.85	14.04	6.81	2.56	-14.86	-37.24	-13.32	4.89	7.84	13.63	5.47
19.905	5.13	12.54	6.08	2.33	-13.57	-33.84	-11.93	4.43	7.29	12.63	4.88
19.910	4.71	11.42	5.55	2.13	-12.56	-31.24	-10.89	3.98	6.78	11.84	4.57
19.915	4.45	10.67	5.21	1.95	-11.83	-29.42	-10.33	3.53	6.34	11.17	4.44
19.920	4.32	10.42	5.04	1.81	-11.34	-28.14	-10.05	3.21	5.98	10.70	4.34
19.925	4.08	9.61	4.62	1.25	-10.37	-24.90	-9.33	2.42	5.37	9.51	4.00
19.930	6.46	16.49	7.38	6.82	-15.69	-50.01	-14.75	7.97	7.83	16.33	6.43
19.935	14.75	33.62	15.60	5.76	-34.33	-89.24	-31.43	11.35	16.77	30.25	13.58
19.940	20.99	36.85	15.93	-4.59	-41.16	-81.06	-37.40	1.85	17.64	33.08	18.80
19.945	11.35	20.09	8.74	-0.62	-21.34	-45.16	-21.62	0.00	8.78	19.30	11.42
19.950	-1.49	5.82	4.31	5.54	-3.24	-18.32	-3.45	7.52	3.72	3.33	-1.05
19.955	-1.47	3.28	1.25	2.54	-0.81	-8.66	1.21	7.87	2.22	-0.49	-2.83
19.960	1.14	5.16	1.88	-1.59	-3.78	-7.32	-3.02	3.13	2.34	1.31	0.80
19.965	0.18	2.59	0.55	-3.71	-1.28	2.04	-0.63	1.18	0.80	-1.69	0.14
19.970	-2.11	-2.31	-1.61	0.16	4.26	7.46	4.97	2.26	-1.59	-4.54	-3.42
MAXIMUM	173.15	335.72	144.63	326.71	180.71	473.17	312.85	313.04	171.11	245.14	124.57
@TIME	5.250	5.250	6.010	10.985	10.985	10.840	10.840	5.990	5.990	5.265	10.990
MINIMUM	-147.68	-254.32	-133.14	-193.01	-298.53	-509.97	-168.74	-293.65	-117.72	-266.22	-152.75
@TIME	5.265	5.265	10.840	10.975	5.255	5.255	6.010	10.985	6.015	10.840	10.840

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK QMM DATE 3/16/01
CALC. NO. C(P017)-2 REV. NO. 3
SHEET NO. 1/6

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	-0.43	0.02	1.38	3.98	9.18	-6.56	-49.08	-1.33	48.89	5.77
0.005	0.66	3.29	7.03	9.80	8.04	-19.80	-60.99	-9.12	36.04	20.64
0.010	4.89	6.30	5.09	0.59	-4.81	-8.96	-6.45	-15.81	-24.10	17.46
0.015	2.70	-1.09	-4.97	-5.15	3.66	6.51	0.91	1.55	2.82	-6.62
0.020	-4.56	-4.91	-1.27	4.39	9.07	7.43	5.76	3.71	-6.21	-12.11
0.025	-2.23	1.35	4.57	6.20	8.60	7.39	-2.16	-12.15	-14.44	-1.72
0.030	2.44	3.95	5.20	6.43	4.46	-1.97	-8.99	-3.39	1.25	-0.68
0.035	3.68	4.48	4.05	1.25	-2.90	-1.93	2.54	-0.13	-4.14	-1.78
0.040	2.53	0.73	-1.67	-2.19	1.05	1.05	-1.94	-1.67	-0.02	-0.14
0.045	-1.20	-1.67	-0.47	1.03	0.13	-0.42	0.51	0.17	-0.75	-0.41
0.050	-0.15	0.56	0.22	-0.98	-0.71	0.37	1.47	0.47	0.06	-0.41
0.055	0.26	-0.60	-0.90	-0.41	0.30	0.30	0.89	0.86	0.50	-0.37
0.060	-1.12	-0.60	0.00	-0.04	-0.22	0.49	1.62	0.60	0.04	-0.18
0.065	-0.49	-0.60	-0.64	-0.60	0.30	0.60	1.47	1.01	0.48	-0.41
0.070	-0.60	-0.60	-0.60	-0.30	0.00	0.60	1.90	0.90	0.22	-0.41
0.075	-0.30	-0.30	-0.30	-0.30	0.22	0.60	1.58	0.82	0.20	-0.30
0.080	-0.30	-0.30	0.00	0.00	0.30	0.60	1.36	0.60	0.09	-0.30
0.085	-0.60	-0.30	-0.30	0.00	0.56	0.62	1.36	0.56	-0.15	-0.41
0.090	-0.30	-0.30	-0.30	0.00	0.60	0.90	1.28	0.30	-0.13	-0.41
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19.900	1.88	0.01	-3.13	-7.52	-15.12	-6.11	13.77	12.50	14.98	0.27
19.905	0.25	-2.38	-6.41	-11.46	-19.69	-8.31	16.05	16.73	20.79	3.27
19.910	-1.37	-4.53	-8.85	-13.95	-21.57	-9.19	17.06	19.00	23.89	5.47
19.915	-2.96	-6.16	-10.22	-14.61	-20.96	-8.61	16.81	19.44	24.24	6.77
19.920	-4.14	-7.03	-10.43	-13.81	-18.34	-7.14	15.55	18.18	22.38	6.94
19.925	-4.76	-6.99	-9.48	-11.78	-14.63	-5.19	13.61	15.86	19.12	6.27
19.930	-4.74	-6.21	-7.83	-9.25	-11.10	-3.29	11.94	13.14	15.31	5.05
19.935	-4.13	-5.04	-6.05	-6.76	-7.29	-2.15	7.50	10.75	15.05	3.87
19.940	-3.24	-3.72	-4.14	-4.63	-5.66	-1.84	6.90	8.75	11.83	2.91
19.945	-2.18	-2.55	-3.37	-4.40	-5.60	-0.40	11.14	7.74	5.77	1.14
19.950	-1.98	-2.97	-4.04	-4.52	-3.25	1.64	11.67	7.76	5.18	-1.12
19.955	-2.84	-3.70	-3.94	-3.31	-1.15	3.16	12.90	6.99	2.49	-2.49
19.960	-3.29	-3.69	-3.59	-2.59	1.34	5.24	13.39	5.52	-0.74	-3.32
19.965	-3.79	-4.08	-3.42	-1.25	4.98	7.23	12.26	4.14	-3.41	-4.30
19.970	-4.01	-3.37	-1.39	1.71	6.79	8.04	7.18	1.38	-4.03	-4.74
MAXIMUM	121.43	113.36	118.07	150.82	195.23	146.36	697.70	417.76	541.88	244.54
@TIME	11.535	11.530	5.795	5.790	5.790	5.785	5.265	5.270	5.255	5.255
MINIMUM	-143.47	-198.35	-268.11	-381.88	-623.59	-315.65	-571.26	-258.61	-562.89	-129.17
@TIME	11.000	10.995	5.270	5.270	5.265	5.260	5.250	5.790	5.790	5.800

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(PR)-2 REV. NO. 3
SHEET NO. 111

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	-8.3	15.4	88.9	75.7	-24.0	-66.6	-66.6	-24.0	75.7	88.9	15.4	-8.3
0.005	4.1	50.0	126.8	101.9	-15.6	-81.5	-81.5	-15.6	101.9	126.8	50.0	4.1
0.010	4.0	2.4	-8.5	1.9	34.8	52.4	52.3	34.6	1.7	-8.7	2.4	4.0
0.015	-8.4	-25.9	-24.9	-0.6	31.2	55.1	55.0	30.9	-0.8	-25.1	-25.9	-8.4
0.020	6.3	24.9	39.4	29.0	1.0	-20.2	-20.3	0.7	28.8	39.2	24.9	6.3
0.025	-0.1	0.0	1.0	0.4	0.7	3.6	3.5	0.6	0.2	0.9	0.0	-0.1
0.030	-2.6	-10.9	-14.3	-7.6	1.8	7.4	7.3	1.6	-7.7	-14.3	-10.9	-2.6
0.035	2.2	7.6	9.5	2.0	-8.5	-13.8	-14.0	-8.7	1.8	9.4	7.6	2.3
0.040	-0.4	-0.7	0.7	0.0	-4.1	-7.0	-7.2	-4.5	-0.4	0.4	-0.8	-0.3
0.045	-0.3	-2.7	-5.1	-4.3	-0.1	3.3	3.1	-0.5	-4.7	-5.4	-2.7	-0.3
0.050	0.3	1.4	3.5	2.8	-0.4	-2.3	-2.4	-0.6	2.6	3.3	1.4	0.3
0.055	0.7	1.8	2.6	2.4	1.4	0.6	0.5	1.2	2.3	2.6	1.9	0.8
0.060	-0.2	-1.0	-0.8	0.5	2.4	4.0	3.9	2.2	0.4	-0.8	-1.0	-0.2
0.065	0.4	0.7	1.2	1.5	1.4	1.1	1.1	1.3	1.4	1.1	0.7	0.4
0.070	0.2	0.7	1.5	1.2	0.4	0.4	0.3	0.3	1.1	1.5	0.7	0.3
0.075	0.2	-0.2	-0.3	0.1	0.5	0.7	0.6	0.4	0.0	-0.4	-0.2	0.2
0.080	0.1	0.1	0.4	0.2	-0.2	0.1	0.0	-0.3	0.1	0.3	0.1	0.2
0.085	0.3	0.3	0.7	0.6	-0.2	-0.6	-0.7	-0.3	0.5	0.7	0.3	0.3
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19.900	-12.9	5.5	52.4	80.2	98.1	53.8	-43.8	-93.2	-86.6	-60.3	-5.6	14.5
19.905	-12.1	3.6	43.9	69.2	87.6	48.3	-40.2	-85.6	-82.3	-58.2	-5.8	12.9
19.910	-11.0	2.4	36.8	59.3	76.9	42.4	-36.7	-77.6	-76.7	-55.0	-5.9	11.2
19.915	-9.6	1.8	31.3	51.1	67.0	36.6	-33.3	-69.9	-70.3	-50.9	-6.2	9.4
19.920	-8.3	1.7	27.6	44.8	58.1	31.2	-30.3	-62.5	-63.4	-46.2	-6.4	7.8
19.925	-6.9	1.9	24.9	39.8	50.3	26.5	-27.3	-55.4	-56.4	-41.3	-6.4	6.4
19.930	-5.7	2.0	22.4	35.0	43.2	22.4	-23.6	-47.9	-48.8	-35.8	-6.2	5.1
19.935	-4.0	1.9	17.9	27.7	32.6	16.6	-17.4	-36.2	-37.5	-27.6	-5.3	3.6
19.940	-18.1	-6.5	35.7	54.6	78.0	47.0	-49.9	-81.8	-59.3	-39.9	4.7	18.2
19.945	-22.9	4.9	89.3	134.7	155.6	81.4	-83.7	-158.2	-135.9	-89.3	-5.5	23.4
19.950	-3.7	32.7	106.9	143.6	130.2	56.9	-52.8	-128.5	-141.2	-104.8	-33.2	5.2
19.955	0.3	15.3	41.7	50.2	44.9	21.3	-16.5	-41.2	-41.1	-33.6	-13.5	2.6
19.960	-5.4	-13.6	-13.3	-10.3	1.6	6.0	-3.6	1.3	23.4	27.2	18.2	9.5
19.965	-4.2	-7.2	3.3	5.0	3.4	3.1	-4.4	-2.3	14.1	17.2	12.6	8.7
19.970	-0.3	6.3	21.9	26.9	17.9	6.3	-4.6	-12.1	-10.9	-5.6	-0.2	2.2
MAXIMUM	125.3	309.0	1282.5	1476.4	1039.0	831.1	998.0	1362.1	1421.2	1042.4	342.0	98.2
@TIME	10.985	10.985	5.250	5.250	5.250	5.915	10.840	10.845	10.845	10.840	10.845	5.890
MINIMUM	-246.6	-594.7	-1643.6	-1612.9	-1018.5	-969.6	-1298.0	-1446.9	-1199.0	-1053.2	-395.7	-254.2
@TIME	4.625	5.265	5.265	5.265	5.775	5.780	5.890	4.625	10.990	10.990	10.990	10.835

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. C(B)23-2 REV. NO. 3
SHEET NO. 112

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	-7.4	23.1	116.5	97.3	-33.5	-88.7	-88.7	-33.5	97.3	116.5	23.1	-7.4
0.005	8.5	67.4	153.6	119.4	-21.0	-102.6	-102.6	-21.1	119.3	153.5	67.3	8.5
0.010	3.4	-5.1	-32.0	-13.3	51.3	84.9	84.9	51.2	-13.4	-32.1	-5.1	3.4
0.015	-11.2	-36.5	-35.4	0.4	47.6	82.6	82.5	47.4	0.2	-35.5	-36.6	-11.2
0.020	10.1	38.8	56.8	40.7	2.4	-28.0	-28.1	2.2	40.5	56.6	38.7	10.1
0.025	-0.5	-3.5	-7.3	-7.5	-0.7	6.6	6.5	-0.9	-7.6	-7.4	-3.6	-0.5
0.030	-4.3	-18.3	-28.0	-18.1	0.5	10.8	10.7	0.2	-18.3	-28.1	-18.3	-4.3
0.035	3.1	10.9	11.7	0.1	-13.9	-21.8	-22.0	-14.3	-0.2	11.5	10.8	3.1
0.040	-0.7	-2.3	-2.7	-3.2	-6.0	-8.7	-8.9	-6.5	-3.6	-3.1	-2.4	-0.6
0.045	-0.7	-4.7	-9.8	-8.1	-0.1	5.8	5.6	-0.5	-8.6	-10.1	-4.9	-0.7
0.050	0.2	2.2	5.4	4.0	-1.4	-4.8	-4.9	-1.7	3.7	5.2	2.1	0.3
0.055	0.7	2.1	3.3	2.9	1.3	0.1	-0.1	1.0	2.7	3.2	2.1	0.8
0.060	-0.5	-1.6	-0.4	1.2	2.7	4.5	4.5	2.5	1.0	-0.5	-1.6	-0.5
0.065	0.6	1.6	3.5	3.6	1.4	-0.1	-0.2	1.3	3.4	3.4	1.6	0.6
0.070	0.3	1.2	3.5	2.9	0.3	-0.3	-0.4	0.1	2.7	3.4	1.2	0.3
0.075	0.2	0.0	1.0	1.5	0.7	0.2	0.1	0.5	1.4	0.9	0.0	0.2
0.080	0.2	0.6	2.4	1.8	-0.4	-0.8	-0.8	-0.5	1.7	2.3	0.6	0.2
0.085	0.4	0.9	2.3	2.1	-0.1	-1.3	-1.4	-0.2	2.0	2.3	0.9	0.4
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19.900	-8.1	23.5	89.4	115.0	108.9	46.8	-60.3	-111.3	-92.1	-62.8	-15.5	9.1
19.905	-7.6	21.0	81.1	103.7	96.1	39.7	-55.7	-99.7	-80.6	-53.9	-12.9	7.9
19.910	-6.8	18.5	72.6	92.4	84.1	33.7	-50.2	-88.0	-70.0	-46.1	-10.8	6.7
19.915	-6.0	16.4	64.5	81.9	73.7	29.0	-44.6	-77.2	-61.0	-39.8	-9.1	5.7
19.920	-5.2	14.5	57.3	72.8	64.9	25.6	-39.1	-67.7	-53.9	-35.2	-8.1	4.9
19.925	-4.3	13.0	51.0	64.8	57.6	23.0	-34.0	-59.6	-48.3	-31.8	-7.4	4.2
19.930	-3.4	11.7	44.6	56.7	50.2	20.3	-28.8	-51.4	-42.5	-28.4	-6.9	3.5
19.935	-1.6	10.0	34.7	43.6	36.4	13.6	-20.6	-37.3	-31.0	-20.3	-5.8	2.0
19.940	0.4	9.9	30.6	37.0	30.4	11.3	-18.0	-31.4	-24.3	-16.1	-5.6	0.5
19.945	-7.1	18.3	74.0	94.7	100.9	50.7	-57.5	-102.0	-80.3	-57.5	-13.5	8.5
19.950	-4.4	46.7	143.1	184.8	173.2	77.2	-83.2	-173.5	-167.7	-123.9	-41.3	6.6
19.955	2.1	46.9	122.5	148.3	118.7	46.0	-50.0	-117.1	-127.2	-99.6	-40.6	0.9
19.960	-6.0	-3.8	7.0	14.0	28.3	19.7	-12.8	-21.0	1.0	7.4	9.2	10.1
19.965	-7.1	-27.9	-53.2	-50.5	-12.4	9.7	10.7	23.7	53.2	51.3	26.7	11.1
19.970	-2.5	-10.4	-19.6	-21.4	-9.7	2.6	9.4	17.1	23.9	18.6	8.8	3.4
MAXIMUM	68.9	454.6	1440.2	1646.5	1256.5	1184.6	1056.1	1281.1	1623.4	1375.6	526.2	116.5
@TIME	4.625	5.250	5.245	5.245	5.250	5.915	5.915	10.840	10.840	10.840	10.845	10.845
MINIMUM	-176.6	-499.3	-1384.9	-1616.8	-1237.4	-1373.2	-1749.2	-1708.4	-1441.7	-1310.5	-418.4	-162.7
@TIME	12.460	5.270	5.270	5.270	5.775	5.775	5.935	5.935	5.270	5.270	5.275	10.835

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DMW DATE 3/16/01
CALC. NO. C(B013)-2 REV. NO. 3
SHEET NO. 1/3

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	39.5	-6.1	-135.6	-108.3	104.6	136.9	-5.0	-166.4	-155.5	42.0	68.5	
0.005	38.4	-45.4	-170.7	-106.1	106.8	181.8	21.5	-206.6	-235.5	-87.1	-3.1	
0.010	-1.3	16.5	42.2	14.7	-86.4	-50.8	39.6	40.5	-33.1	-148.6	-96.3	
0.015	60.3	83.5	42.5	-35.6	-95.1	-91.9	-23.9	46.3	92.6	106.7	50.9	
0.020	48.4	3.0	-37.3	-37.8	-20.7	0.0	-0.3	9.2	46.4	59.9	28.0	
0.025	-12.9	-9.3	-2.6	-5.0	-16.4	17.9	58.1	31.1	-33.6	-83.8	-48.2	
0.030	6.6	13.9	6.3	5.7	14.3	23.0	7.2	-14.2	-8.0	7.8	7.1	
0.035	11.3	18.2	25.3	25.9	9.7	-2.5	5.6	24.2	33.0	20.4	4.6	
0.040	21.5	26.7	16.9	1.0	-7.9	13.3	33.7	24.4	7.5	-5.1	-4.4	
0.045	15.7	8.1	3.0	6.7	14.1	20.1	15.8	7.9	4.8	2.1	0.2	
0.050	0.2	8.1	17.8	21.8	18.2	8.8	4.8	9.1	9.0	5.9	2.3	
0.055	5.2	11.3	15.4	14.4	12.0	9.8	5.0	2.6	2.5	2.8	1.8	
0.060	2.5	2.5	6.4	10.4	13.5	7.2	0.0	1.7	1.0	1.2	1.5	
0.065	-1.9	0.4	7.0	10.0	9.6	3.3	-3.3	0.0	3.5	5.2	3.4	
0.070	-2.0	0.6	5.1	6.8	7.4	0.8	-4.8	0.1	2.6	4.7	3.6	
0.075	-6.0	-3.6	2.8	6.1	6.4	0.7	-5.5	-1.6	1.5	3.2	2.6	
0.080	-8.1	-5.6	0.8	4.5	5.9	0.7	-4.8	-1.4	0.9	3.1	2.8	
0.085	-5.9	-4.4	0.1	2.7	3.3	0.4	-3.4	-0.1	2.3	3.1	2.3	
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19.900	-50.6	-31.7	27.7	72.1	104.1	33.6	-44.4	-28.1	-7.4	25.9	24.1	
19.905	-73.0	-57.7	5.5	55.4	93.9	11.4	-77.8	-57.3	-27.9	19.2	24.1	
19.910	-88.2	-77.3	-15.3	35.0	75.6	-10.6	-102.0	-78.5	-43.3	12.2	22.4	
19.915	-95.5	-89.0	-32.9	13.7	52.3	-29.7	-115.3	-90.1	-52.3	5.7	19.4	
19.920	-95.2	-92.8	-45.7	-5.9	28.1	-43.8	-117.6	-92.4	-55.1	0.5	15.9	
19.925	-89.4	-90.1	-52.7	-20.8	7.1	-52.0	-111.4	-86.9	-52.3	-2.8	12.5	
19.930	-80.3	-82.6	-53.7	-29.3	-7.8	-54.0	-99.3	-76.3	-45.7	-4.0	9.7	
19.935	-69.5	-71.9	-49.3	-30.9	-15.2	-50.6	-84.6	-63.3	-36.9	-3.2	8.1	
19.940	-58.2	-59.7	-42.1	-27.7	-14.6	-42.7	-70.1	-49.8	-27.3	-0.7	7.7	
19.945	-49.4	-48.7	-30.1	-17.8	-9.3	-32.9	-56.6	-36.7	-17.2	3.1	8.5	
19.950	-43.1	-36.6	-12.2	-0.9	-0.3	-23.5	-45.6	-24.4	-6.8	7.8	10.1	
19.955	-34.3	-21.7	5.5	15.3	10.8	-13.0	-35.4	-12.4	3.8	12.8	12.0	
19.960	6.8	25.0	28.4	20.0	-14.1	-18.7	-7.4	13.3	21.2	15.3	10.0	
19.965	77.5	96.4	58.3	2.1	-75.2	-38.2	33.0	55.3	50.9	16.4	2.6	
19.970	84.7	87.4	50.4	-5.3	-52.7	-23.2	33.2	55.3	53.1	27.4	6.8	
MAXIMUM	1023.7	970.6	1100.1	1165.9	888.7	1173.1	1672.1	1854.2	1406.7	914.7	501.2	
@TIME	5.765	5.760	8.015	8.015	11.535	10.840	4.630	5.760	5.760	4.635	4.635	
MINIMUM	-2783.8	-2348.1	-2287.5	-1859.1	-1249.6	-2190.7	-3123.6	-2293.2	-2247.6	-1224.3	-510.3	
@TIME	5.265	5.265	4.630	4.630	5.760	5.275	5.270	5.935	5.935	5.940	5.760	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. 6.1(P27)-2 REV. NO. 3
SHEET NO. 116

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	9.98	26.66	-4.75	-36.12	-17.97	0.00	17.97	36.12	4.75	-26.66	-9.98
0.005	19.34	27.90	-9.02	-42.59	-27.80	0.00	27.80	42.59	9.02	-27.84	-19.34
0.010	-0.67	-3.99	3.77	11.94	7.39	-0.06	-7.52	-11.91	-3.77	4.07	0.67
0.015	-7.40	0.36	8.80	11.50	10.11	-0.06	-10.18	-11.52	-8.80	-0.36	7.42
0.020	7.84	5.19	-3.72	-10.17	-8.97	-0.06	8.86	10.17	3.77	-5.19	-7.82
0.025	0.04	0.36	-0.20	0.10	1.20	0.00	-1.20	-0.15	0.23	-0.33	-0.04
0.030	-3.49	-1.21	2.47	3.41	2.34	0.00	-2.34	-3.36	-2.44	1.24	3.49
0.035	2.24	0.66	-2.76	-3.81	-2.26	-0.06	2.21	3.81	2.76	-0.66	-2.24
0.040	-0.16	0.47	-0.21	-1.47	-1.19	-0.08	1.14	1.50	0.29	-0.44	0.18
0.045	-0.98	-0.93	0.31	1.51	1.42	-0.08	-1.51	-1.53	-0.26	0.99	1.03
0.050	0.47	0.71	-0.26	-1.15	-0.78	-0.06	0.75	1.17	0.26	-0.68	-0.47
0.055	0.50	0.26	-0.08	-0.39	-0.29	-0.06	0.29	0.39	0.08	-0.26	-0.50
0.060	-0.34	0.10	0.50	0.69	0.66	-0.03	-0.77	-0.69	-0.47	-0.10	0.40
0.065	0.16	0.13	0.16	-0.05	-0.15	0.00	0.08	0.05	-0.08	-0.10	-0.16
0.070	0.18	0.31	-0.10	-0.31	0.00	0.00	0.00	0.31	0.18	-0.31	-0.18
0.075	-0.14	-0.06	0.18	0.17	0.08	0.00	-0.11	-0.17	-0.18	0.09	0.18
0.080	-0.03	0.15	-0.10	-0.12	0.14	0.00	-0.14	0.18	0.10	-0.07	0.03
0.085	0.05	0.12	0.00	-0.28	-0.21	0.00	0.15	0.28	0.00	-0.12	-0.05
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19.900	7.82	16.96	10.09	6.49	-18.64	-49.32	-20.84	2.36	9.50	19.85	8.51
19.905	6.69	14.55	9.16	6.68	-16.54	-44.72	-19.17	1.23	8.70	19.00	7.90
19.910	5.65	12.44	8.15	6.36	-14.59	-39.91	-17.29	0.30	7.85	17.76	7.26
19.915	4.81	10.72	7.19	5.70	-12.79	-35.31	-15.42	-0.17	7.08	16.20	6.62
19.920	4.22	9.41	6.20	4.84	-11.34	-31.05	-13.59	-0.36	6.25	14.43	6.04
19.925	3.77	8.34	5.40	3.84	-10.06	-27.12	-11.90	-0.34	5.48	12.63	5.40
19.930	3.26	7.35	4.60	2.96	-8.73	-23.24	-10.24	-0.28	4.71	10.72	4.77
19.935	2.49	5.82	3.54	1.73	-6.75	-17.14	-7.90	-0.47	3.59	8.07	3.76
19.940	4.88	15.28	6.80	8.51	-13.05	-48.97	-13.44	8.11	7.01	16.17	5.68
19.945	11.72	30.62	16.42	7.57	-31.33	-83.37	-31.43	8.06	16.85	30.36	12.20
19.950	15.41	26.83	13.32	-4.85	-30.91	-55.40	-31.96	-4.55	13.17	25.97	16.15
19.955	6.30	9.60	3.09	-1.92	-9.93	-19.08	-10.40	0.04	2.69	7.31	6.78
19.960	-3.46	0.13	1.13	4.26	1.85	-4.77	2.07	8.00	1.38	-3.26	-3.65
19.965	-1.28	3.86	0.56	-0.56	-0.15	-3.84	0.90	5.91	1.12	-1.68	-1.66
19.970	2.81	5.68	1.79	-3.25	-4.86	-5.54	-3.11	0.47	1.92	1.93	0.96
MAXIMUM	205.73	355.44	110.24	416.03	283.33	387.76	270.76	276.81	185.29	258.24	149.51
@TIME	5.250	5.250	5.255	5.265	5.265	5.775	5.775	5.890	4.625	10.985	10.990
MINIMUM	-216.32	-380.03	-120.44	-241.21	-338.50	-469.89	-219.68	-303.44	-157.45	-313.48	-152.46
@TIME	5.265	5.265	5.775	5.780	4.625	5.250	10.990	10.985	10.845	10.840	10.840

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. G(B27)-2 REV. NO. 3
SHEET NO. 115

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	12.86	33.86	-6.92	-47.36	-23.26	0.00	23.26	47.36	6.92	-33.86	-12.86
0.005	24.79	31.23	-12.43	-50.91	-34.42	0.00	34.42	50.91	12.43	-31.23	-24.79
0.010	-3.56	-9.76	6.82	23.39	14.15	0.00	-14.23	-23.39	-6.82	9.76	3.56
0.015	-10.65	0.43	12.98	17.10	14.77	0.00	-14.84	-17.10	-12.98	-0.38	10.68
0.020	12.07	6.48	-5.80	-13.90	-12.83	0.00	12.73	13.90	5.89	-6.48	-12.04
0.025	-1.29	-1.34	-0.06	2.41	3.08	0.00	-3.08	-2.46	0.06	1.43	1.32
0.030	-5.91	-3.50	3.59	6.74	4.36	-0.06	-4.41	-6.74	-3.56	3.53	5.91
0.035	3.32	0.28	-4.22	-5.10	-3.32	-0.06	3.26	5.10	4.24	-0.22	-3.25
0.040	-0.71	-0.16	-0.13	-1.01	-1.14	-0.06	1.04	0.97	0.24	0.22	0.71
0.045	-1.70	-1.88	0.60	2.91	2.50	-0.06	-2.53	-2.96	-0.51	1.91	1.80
0.050	0.84	1.13	-0.48	-1.99	-1.47	-0.06	1.37	1.99	0.48	-1.08	-0.81
0.055	0.62	0.41	-0.13	-0.59	-0.50	-0.06	0.44	0.59	0.13	-0.35	-0.58
0.060	-0.48	0.42	0.60	0.58	0.82	0.00	-0.87	-0.56	-0.60	-0.42	0.48
0.065	0.48	0.66	0.08	-0.76	-0.69	0.00	0.61	0.76	0.00	-0.66	-0.44
0.070	0.40	0.82	-0.24	-0.92	-0.28	0.00	0.28	0.92	0.24	-0.82	-0.40
0.075	-0.07	0.34	0.20	-0.38	-0.17	0.00	0.14	0.38	-0.20	-0.34	0.12
0.080	0.18	0.65	-0.20	-0.81	-0.20	0.00	0.20	0.81	0.20	-0.61	-0.18
0.085	0.24	0.50	-0.07	-0.79	-0.46	0.00	0.44	0.79	0.10	-0.47	-0.21
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19.900	13.38	23.86	9.30	-2.20	-26.18	-54.11	-21.53	6.93	10.64	17.14	10.44
19.905	12.06	21.78	8.21	-2.74	-23.80	-48.15	-18.60	6.86	9.70	14.87	8.76
19.910	10.66	19.56	7.22	-2.97	-21.33	-42.34	-15.92	6.51	8.67	12.77	7.36
19.915	9.40	17.43	6.29	-3.05	-18.80	-37.13	-13.79	5.87	7.72	11.09	6.27
19.920	8.31	15.53	5.60	-2.82	-16.62	-32.67	-12.09	5.01	6.79	9.80	5.46
19.925	7.32	13.75	5.03	-2.58	-14.57	-28.73	-10.83	4.10	5.95	8.85	4.90
19.930	6.38	11.94	4.38	-2.33	-12.62	-24.74	-9.56	3.22	5.17	7.78	4.38
19.935	4.89	8.99	3.16	-2.64	-9.60	-17.28	-7.05	2.27	3.86	5.26	3.28
19.940	4.05	7.51	2.26	-2.35	-8.06	-14.81	-5.70	2.60	2.94	3.73	2.57
19.945	10.69	20.19	7.53	2.30	-21.16	-54.65	-18.71	7.86	8.25	15.94	9.24
19.950	21.58	34.92	15.12	-4.24	-40.49	-81.03	-38.08	2.11	15.87	29.94	20.16
19.955	18.87	27.39	9.40	-10.70	-30.68	-48.48	-28.31	-3.67	9.99	21.36	17.52
19.960	0.96	3.89	2.55	5.18	-3.65	-16.38	-3.46	7.96	2.29	0.64	0.37
19.965	-8.77	-9.16	0.95	13.85	9.28	0.50	5.47	10.67	-0.64	-8.88	-6.60
19.970	-3.31	-3.30	-0.67	4.20	5.23	3.41	3.28	2.46	-1.92	-3.57	-2.28
MAXIMUM	232.41	375.96	121.62	376.88	226.11	376.94	283.38	379.33	224.58	326.29	160.94
@TIME	5.250	5.245	5.915	5.760	10.975	10.840	10.840	5.935	5.935	5.270	5.270
MINIMUM	-184.55	-320.84	-152.30	-298.13	-386.71	-506.08	-199.02	-302.07	-108.80	-315.91	-222.50
@TIME	5.270	5.270	5.775	5.775	5.935	5.935	10.985	10.980	10.980	10.840	10.840

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 1/6

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	-17.37	-46.96	9.83	77.19	8.36	-36.78	-58.47	3.91	71.52	7.84
0.005	-32.01	-45.38	23.45	77.17	19.39	-41.50	-82.61	-10.45	53.78	24.90
0.010	6.78	9.30	-9.90	-36.69	9.22	23.34	0.33	-26.70	-41.87	15.50
0.015	8.81	-14.87	-28.29	-21.55	0.80	17.56	25.47	16.77	5.16	-16.58
0.020	-17.33	-14.55	-0.24	6.20	5.42	-0.11	3.48	13.47	4.88	-9.52
0.025	1.39	2.40	-0.84	-4.14	8.91	10.39	-9.78	-23.39	-18.19	10.55
0.030	2.81	-2.75	-0.22	3.09	2.25	-4.07	-7.78	2.28	5.75	-0.21
0.035	2.62	2.49	0.27	-5.90	-3.13	2.15	6.71	3.17	-4.52	-4.74
0.040	1.96	-3.54	-5.76	-3.22	5.48	5.25	-3.38	-6.17	-4.54	0.20
0.045	-2.89	-1.87	1.30	2.66	1.57	-1.07	-2.85	-1.14	-0.95	-0.63
0.050	2.97	3.48	1.46	-1.32	-2.46	-1.05	1.52	0.00	-1.13	-1.08
0.055	2.36	1.43	-0.38	-0.89	-0.63	-1.23	-0.90	-0.04	0.17	-0.34
0.060	0.02	1.38	1.50	1.08	-1.57	-1.91	0.60	-0.30	0.12	0.09
0.065	0.90	2.40	1.03	-0.14	-1.62	-1.64	1.24	1.23	0.61	-0.58
0.070	0.94	1.59	0.60	0.24	-1.64	-1.40	1.77	0.90	0.70	-0.39
0.075	0.92	2.31	1.23	0.07	-1.47	-1.64	1.45	1.15	0.59	-0.11
0.080	0.92	2.31	1.31	0.57	-1.34	-1.38	1.21	0.88	0.85	-0.11
0.085	0.60	1.66	1.01	0.20	-0.78	-0.93	1.12	0.82	0.31	-0.30
0.090	0.90	1.33	0.41	-0.06	-0.52	-0.41	1.08	0.60	0.20	-0.30
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19.900	7.22	21.53	16.07	11.61	-18.26	-20.20	5.92	7.43	12.06	-0.55
19.905	5.81	22.91	18.03	13.97	-21.35	-23.14	7.38	10.63	17.09	1.40
19.910	4.12	22.47	18.19	14.71	-22.33	-23.64	8.59	12.75	20.08	3.02
19.915	2.46	20.36	16.83	13.99	-21.23	-22.19	9.16	13.68	21.03	4.10
19.920	0.92	17.11	14.42	12.34	-18.64	-19.17	9.15	13.51	20.11	4.60
19.925	-0.22	13.52	11.58	10.15	-15.32	-15.34	8.82	12.56	17.99	4.56
19.930	-0.85	10.46	8.89	7.77	-12.00	-11.72	8.35	11.12	15.07	4.06
19.935	-0.94	8.22	6.67	5.73	-9.19	-8.81	7.74	9.50	12.22	3.38
19.940	-0.64	6.38	5.21	4.76	-7.24	-7.07	7.32	8.18	9.63	2.49
19.945	0.27	6.71	4.40	3.03	-6.14	-6.14	7.18	7.06	7.31	1.60
19.950	2.49	8.87	4.09	0.23	-6.04	-5.72	7.72	6.38	5.29	0.64
19.955	4.79	9.80	3.56	-1.62	-6.16	-5.80	8.30	5.85	3.24	-0.28
19.960	6.93	1.20	-3.03	-12.40	-1.15	2.95	7.56	2.87	-2.15	-1.56
19.965	7.19	-13.80	-20.41	-27.99	9.61	18.45	8.04	-1.61	-12.48	-4.08
19.970	1.02	-13.40	-20.24	-17.16	7.67	14.60	8.04	-0.78	-9.32	-6.19
MAXIMUM	186.38	783.49	402.94	608.89	383.43	477.25	648.33	350.94	436.36	241.19
@TIME	11.540	5.265	5.265	4.625	4.630	5.760	5.270	5.275	5.935	5.935
MINIMUM	-332.54	-525.01	-260.85	-497.24	-616.37	-363.62	-551.04	-224.02	-548.26	-122.66
@TIME	4.630	5.250	5.760	5.760	5.270	5.265	5.245	4.630	5.760	4.635

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. 6(1017)-2 REV. NO. 3
SHEET NO. 17

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.4	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.4	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.3	-0.6	-0.6	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	1.0	0.9	0.0	-0.2	-0.3	-0.1	0.8	0.9	0.3	0.2
0.015	0.2	0.2	0.9	0.9	0.2	0.1	0.0	0.0	0.7	0.7	0.1	0.2
0.020	0.2	0.3	1.1	1.0	0.3	0.1	0.0	0.1	0.8	0.9	0.3	0.2
0.025	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.8	0.9	0.3	0.2
0.030	0.2	0.3	1.0	1.0	0.3	0.1	-0.1	0.0	0.7	0.8	0.2	0.2
0.035	0.2	0.3	1.0	1.0	0.2	0.0	-0.1	-0.1	0.7	0.8	0.2	0.2
0.040	0.2	0.3	1.0	1.0	0.2	-0.1	-0.2	-0.1	0.7	0.8	0.2	0.2
0.045	0.2	0.3	0.9	0.9	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.050	0.2	0.3	1.0	0.9	0.2	0.0	-0.2	-0.1	0.6	0.8	0.2	0.2
0.055	0.2	0.3	1.0	1.0	0.2	0.0	-0.2	-0.2	0.6	0.7	0.2	0.2
0.060	0.2	0.3	1.0	1.0	0.3	0.0	-0.2	-0.2	0.6	0.7	0.2	0.2
0.065	0.2	0.3	1.0	1.0	0.2	0.0	-0.2	-0.1	0.6	0.7	0.2	0.2
0.070	0.2	0.3	1.0	0.9	0.2	0.0	-0.1	0.0	0.7	0.8	0.2	0.2
0.075	0.2	0.3	0.9	0.9	0.2	0.0	-0.1	0.0	0.8	0.8	0.2	0.2
0.080	0.2	0.3	1.0	0.9	0.1	-0.1	-0.2	0.0	0.7	0.8	0.2	0.2
0.085	0.2	0.3	1.0	0.9	0.2	-0.1	-0.2	-0.1	0.7	0.8	0.2	0.2
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19.900	-9.5	33.0	110.7	146.7	155.2	75.7	-72.9	-152.1	-142.8	-106.6	-29.7	11.6
19.905	-9.5	31.4	105.4	140.8	150.3	73.3	-70.7	-148.1	-141.5	-106.2	-29.4	10.8
19.910	-8.7	29.7	98.1	131.1	140.2	68.4	-65.8	-138.4	-134.5	-101.8	-28.7	9.4
19.915	-6.4	29.4	90.7	119.4	126.4	61.3	-59.7	-125.4	-123.2	-93.9	-27.4	7.5
19.920	-4.7	27.8	82.2	107.3	111.8	53.3	-53.3	-111.7	-111.3	-84.9	-25.0	6.1
19.925	-4.4	22.1	68.6	90.8	94.6	45.2	-44.7	-94.6	-95.5	-72.5	-20.4	5.5
19.930	-4.2	15.2	51.2	69.1	72.7	35.2	-34.4	-72.4	-72.9	-54.8	-14.4	4.8
19.935	-3.6	12.9	54.9	67.0	51.1	18.7	-31.3	-56.6	-54.8	-40.2	-10.5	3.3
19.940	0.5	18.4	59.7	66.6	35.1	4.0	-25.3	-41.6	-42.2	-30.2	-10.4	0.0
19.945	1.2	8.5	18.8	22.7	19.4	8.3	-7.2	-15.5	-10.4	-7.3	-6.2	-0.9
19.950	-12.1	-5.1	23.4	38.7	68.5	47.6	-39.1	-63.4	-31.6	-20.1	1.8	12.0
19.955	-0.5	39.0	114.4	149.0	137.6	58.9	-70.1	-141.8	-133.6	-95.2	-32.0	4.1
19.960	14.7	57.8	116.4	131.1	82.0	19.0	-33.5	-89.4	-114.3	-94.5	-51.3	-10.7
19.965	-1.8	-7.9	-4.1	-10.3	-18.8	-10.9	-0.8	12.1	27.4	23.6	9.4	4.1
19.970	-7.3	-31.8	-55.8	-62.6	-48.2	-19.2	11.9	46.4	73.5	68.9	35.7	8.1
MAXIMUM	94.3	478.6	1281.3	1347.5	1181.8	1392.1	1506.3	1687.5	1771.4	1459.1	543.7	119.0
@TIME	4.620	5.255	5.250	5.255	5.260	5.260	5.265	5.780	5.780	5.775	5.775	10.975
MINIMUM	-134.3	-612.9	-1762.7	-1469.9	-1353.7	-1623.3	-1419.4	-1284.6	-1396.8	-1422.7	-526.1	-223.5
@TIME	7.755	5.265	5.265	5.270	5.720	5.720	5.720	4.620	4.615	4.615	4.615	12.325

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AMM DATE 3/16/01
CALC. NO. G(0017)-2 REV. NO. 3
SHEET NO. 1/8

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	1.0	-0.2	-0.5	-0.5	-0.2	0.9	1.1	0.3	0.2
0.010	0.2	0.4	1.2	1.1	0.2	-0.1	-0.2	0.1	1.0	1.1	0.4	0.2
0.015	0.2	0.3	1.1	1.2	0.4	0.2	0.1	0.2	0.9	1.0	0.2	0.2
0.020	0.2	0.4	1.3	1.3	0.4	0.1	0.0	0.2	1.1	1.2	0.4	0.2
0.025	0.2	0.4	1.4	1.4	0.4	0.1	-0.1	0.1	1.1	1.2	0.4	0.2
0.030	0.2	0.4	1.3	1.3	0.4	0.1	0.0	0.1	1.0	1.1	0.3	0.2
0.035	0.2	0.4	1.4	1.4	0.4	0.0	-0.1	0.0	1.0	1.1	0.3	0.2
0.040	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.0	1.1	1.2	0.4	0.2
0.045	0.2	0.4	1.4	1.3	0.2	-0.1	-0.2	0.0	1.1	1.2	0.4	0.2
0.050	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.0	1.1	1.2	0.4	0.2
0.055	0.2	0.5	1.5	1.5	0.4	0.0	-0.2	-0.1	1.0	1.2	0.3	0.2
0.060	0.2	0.5	1.5	1.5	0.4	0.0	-0.2	0.0	1.0	1.1	0.3	0.2
0.065	0.2	0.4	1.5	1.4	0.4	0.0	-0.2	0.0	1.1	1.2	0.3	0.2
0.070	0.2	0.4	1.4	1.4	0.3	0.0	-0.1	0.1	1.1	1.2	0.4	0.2
0.075	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.1	1.2	1.3	0.4	0.2
0.080	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.1	1.2	1.3	0.4	0.2
0.085	0.2	0.4	1.4	1.3	0.3	-0.1	-0.2	0.1	1.1	1.2	0.4	0.2
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.												
19.900	-8.4	39.5	127.7	161.0	154.8	67.8	-82.7	-158.5	-138.0	-100.2	-31.1	10.1
19.905	-8.1	40.4	129.0	161.0	150.9	63.5	-83.6	-156.0	-133.7	-95.9	-29.8	9.3
19.910	-7.2	38.7	121.8	152.3	142.1	59.8	-77.4	-145.8	-126.9	-91.7	-29.1	7.8
19.915	-6.4	34.2	108.8	136.4	127.1	54.0	-68.0	-129.5	-114.0	-83.2	-27.4	6.2
19.920	-5.2	30.7	96.7	120.0	109.3	45.2	-60.2	-112.2	-97.2	-70.4	-23.5	4.9
19.925	-3.3	28.5	86.5	105.6	92.9	36.9	-52.5	-95.9	-82.1	-58.9	-20.2	3.7
19.930	-1.7	25.3	74.7	90.2	76.7	29.9	-42.6	-78.2	-67.2	-48.2	-17.0	2.5
19.935	-1.0	18.4	56.0	68.2	57.8	23.8	-29.8	-55.9	-46.5	-32.6	-11.8	2.0
19.940	1.0	10.1	30.4	37.0	28.7	13.1	-9.5	-21.0	-14.8	-9.3	-5.0	0.3
19.945	1.4	2.5	3.4	4.0	8.1	9.5	5.1	6.4	14.2	11.8	3.8	1.5
19.950	-6.7	-0.7	21.3	34.8	57.3	41.5	-20.2	-40.4	-21.0	-11.5	3.2	8.3
19.955	-2.9	29.2	94.7	129.7	131.6	66.9	-51.0	-117.9	-113.1	-82.0	-26.5	5.1
19.960	6.3	45.4	102.6	126.1	105.0	43.9	-35.8	-98.1	-115.3	-93.2	-40.4	-1.3
19.965	-1.3	-1.1	6.9	9.4	8.5	5.7	-3.1	-9.2	-5.3	-2.9	0.6	4.7
19.970	-5.0	-26.9	-51.7	-59.1	-43.5	-15.3	12.7	41.7	61.6	55.5	28.7	6.8
MAXIMUM	60.0	470.7	1417.3	1543.9	1166.5	1254.5	1357.5	1606.7	1713.3	1375.2	426.3	85.0
@TIME	10.770	5.255	5.250	5.255	5.255	5.845	5.785	5.780	5.780	5.775	5.775	11.005
MINIMUM	-230.0	-453.0	-1271.4	-1076.8	-1450.9	-1627.2	-1388.8	-1176.2	-1601.1	-1485.5	-507.3	-236.0
@TIME	4.630	5.270	5.265	5.695	7.670	5.725	5.725	10.990	5.750	5.750	5.750	10.840

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK AMM DATE 3/16/01
CALC. NO. S-(B012)-2 REV. NO. 3
SHEET NO. 119

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.7	1.0	0.4	0.4	
0.005	-1.0	-0.4	1.2	1.1	-0.5	-0.5	-0.3	2.0	2.8	1.8	1.1	
0.010	-1.1	-0.8	0.7	0.9	-0.1	0.1	0.5	2.7	3.5	2.6	1.3	
0.015	-1.4	-1.2	0.4	1.0	0.4	0.9	1.0	2.9	3.3	2.2	1.2	
0.020	-2.1	-1.5	0.7	1.6	1.2	1.0	0.7	2.7	3.2	2.3	1.3	
0.025	-2.1	-1.6	0.7	1.7	1.4	0.9	0.2	2.3	3.0	2.5	1.4	
0.030	-1.7	-1.5	0.6	1.5	1.1	0.6	-0.1	2.1	2.8	2.3	1.4	
0.035	-1.5	-1.4	0.6	1.4	0.9	0.2	-0.5	1.8	2.7	2.3	1.4	
0.040	-1.5	-1.5	0.6	1.4	1.0	0.0	-1.1	1.4	2.5	2.4	1.5	
0.045	-1.6	-1.6	0.5	1.4	1.0	-0.1	-1.3	1.1	2.3	2.2	1.5	
0.050	-1.7	-1.7	0.5	1.3	1.0	-0.2	-1.5	1.0	2.2	2.2	1.5	
0.055	-1.7	-1.8	0.4	1.3	0.9	-0.3	-1.5	1.0	2.2	2.2	1.5	
0.060	-1.8	-1.8	0.3	1.2	0.8	-0.3	-1.5	1.0	2.3	2.2	1.5	
0.065	-1.8	-1.9	0.3	1.2	0.8	-0.3	-1.5	1.0	2.3	2.2	1.5	
0.070	-1.8	-1.9	0.3	1.2	0.8	-0.3	-1.5	1.1	2.3	2.3	1.5	
0.075	-1.8	-1.9	0.2	1.1	0.8	-0.3	-1.4	1.0	2.2	2.2	1.5	
0.080	-1.8	-1.8	0.2	1.1	0.7	-0.2	-1.4	1.0	2.2	2.2	1.4	
0.085	-1.7	-1.7	0.3	1.1	0.7	-0.3	-1.3	1.1	2.2	2.1	1.4	
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19.900	-31.7	-40.6	1.3	36.5	65.8	7.8	-55.5	-31.0	-6.6	26.5	24.5	
19.905	-35.0	-59.5	-14.2	29.3	68.1	-14.7	-101.6	-69.2	-30.3	23.6	28.1	
19.910	-9.1	-47.2	-18.4	14.3	47.4	-39.7	-127.9	-96.3	-52.8	9.2	22.4	
19.915	11.0	-20.8	-4.2	8.7	25.3	-62.4	-143.4	-110.4	-66.1	-2.4	17.2	
19.920	-15.1	-30.6	-0.7	16.9	29.9	-68.0	-155.2	-119.2	-69.7	-2.5	17.7	
19.925	-47.8	-65.2	-25.1	9.5	36.5	-55.8	-146.2	-115.3	-69.2	-4.0	16.9	
19.930	-51.7	-76.8	-46.8	-14.1	18.8	-48.8	-120.4	-93.6	-56.8	-2.5	15.2	
19.935	-53.9	-79.8	-58.9	-39.3	-11.0	-24.3	-61.9	-58.0	-38.6	-23.7	-9.0	
19.940	-66.4	-100.9	-83.0	-54.9	-6.3	30.0	16.6	-8.4	-26.5	-43.1	-24.5	
19.945	-53.7	-70.9	-65.1	-36.2	1.2	47.3	60.7	43.4	20.7	-2.3	-4.4	
19.950	-35.5	-8.8	-0.5	-3.1	-10.8	26.8	68.3	81.0	73.3	42.0	13.3	
19.955	-30.8	-6.1	11.5	14.4	5.7	29.7	58.0	73.9	68.3	41.0	15.0	
19.960	-14.0	-0.9	3.1	7.1	-4.1	40.6	71.4	61.0	42.6	4.2	-5.8	
19.965	-3.4	12.8	12.2	-4.4	-26.6	34.6	85.1	76.5	45.6	-5.1	-11.8	
19.970	-2.8	-5.3	-3.7	-1.1	2.6	34.3	61.7	65.8	56.3	30.3	8.2	
MAXIMUM	977.8	1056.7	954.9	1898.3	1327.4	1108.6	1185.4	1499.3	1162.7	533.9	308.1	
@TIME	5.250	10.845	5.265	5.265	5.260	5.765	5.065	5.065	5.065	4.630	4.630	
MINIMUM	-1872.1	-1524.2	-1055.0	-932.6	-1095.8	-2100.0	-3451.4	-1989.4	-2037.3	-1043.7	-530.0	
@TIME	5.265	11.540	12.325	4.625	10.755	5.265	5.265	10.990	5.255	10.850	5.890	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK QWM DATE 3/16/01
CALC. NO. G(B17)-2 REV. NO. 3
SHEET NO. 120

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.44	-0.15	0.00	0.13	0.44	0.00	-0.28	-0.02
0.010	0.02	0.25	0.00	-0.33	-0.13	0.00	0.10	0.33	0.00	-0.18	0.00
0.015	0.00	0.28	0.00	-0.25	-0.05	0.00	0.02	0.25	0.00	-0.23	0.06
0.020	0.08	0.25	0.00	-0.28	-0.10	-0.06	0.02	0.28	0.00	-0.23	0.00
0.025	0.08	0.25	0.00	-0.31	-0.10	-0.06	0.02	0.31	0.00	-0.25	0.00
0.030	0.00	0.28	0.00	-0.31	-0.07	-0.06	0.02	0.28	0.00	-0.23	0.00
0.035	0.00	0.28	0.00	-0.31	-0.10	-0.06	0.02	0.28	0.00	-0.15	0.00
0.040	0.00	0.28	0.00	-0.31	-0.10	-0.06	0.05	0.28	0.00	-0.20	0.00
0.045	0.00	0.28	0.00	-0.28	-0.07	-0.06	0.05	0.28	0.00	-0.20	0.00
0.050	0.00	0.28	0.00	-0.28	-0.10	-0.06	0.05	0.28	0.00	-0.18	0.00
0.055	0.08	0.28	0.00	-0.28	-0.10	-0.06	0.02	0.28	0.00	-0.15	0.03
0.060	0.08	0.28	0.00	-0.28	-0.10	-0.06	0.02	0.28	0.00	-0.15	0.03
0.065	0.00	0.28	0.00	-0.28	-0.10	-0.06	0.02	0.28	0.00	-0.18	0.00
0.070	0.00	0.28	0.00	-0.28	-0.07	0.00	0.05	0.28	0.00	-0.25	0.00
0.075	0.00	0.25	0.00	-0.28	-0.07	0.00	0.07	0.28	0.00	-0.25	0.00
0.080	0.00	0.28	0.00	-0.28	-0.07	0.00	0.07	0.28	0.00	-0.25	0.00
0.085	0.00	0.28	0.00	-0.31	-0.10	0.00	0.05	0.28	0.00	-0.23	0.00
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19.900	17.96	28.09	13.08	3.11	-33.56	-75.07	-33.44	3.33	13.15	27.87	17.38
19.905	17.27	26.86	12.78	3.44	-32.48	-72.73	-32.63	2.42	12.80	27.77	16.98
19.910	16.15	24.81	11.93	3.31	-30.24	-67.78	-30.64	1.41	11.87	26.50	16.05
19.915	15.13	22.20	10.39	2.59	-27.55	-61.10	-27.74	0.79	10.62	24.10	14.75
19.920	13.65	19.72	9.06	1.60	-24.67	-53.81	-24.67	0.15	9.58	21.70	13.12
19.925	11.20	16.86	8.05	1.36	-20.81	-45.37	-21.08	-0.36	8.32	18.85	10.97
19.930	8.18	13.06	6.44	1.32	-15.83	-35.13	-16.05	-0.17	6.59	14.66	8.07
19.935	6.93	15.25	4.35	-5.71	-13.66	-25.31	-10.65	0.67	5.27	10.74	5.81
19.940	7.59	14.97	2.49	-11.43	-13.16	-14.79	-6.85	-0.23	4.33	7.18	4.41
19.945	3.07	3.76	1.38	-1.16	-4.69	-7.82	-3.48	1.88	1.13	0.36	2.24
19.950	2.93	10.36	5.56	10.74	-8.80	-43.82	-10.28	11.53	4.17	7.95	4.32
19.955	16.66	27.33	12.52	-4.14	-33.14	-65.18	-30.25	2.99	13.96	22.89	15.21
19.960	18.14	21.22	5.33	-17.80	-26.57	-26.53	-23.56	-8.98	7.18	15.68	17.14
19.965	-2.56	1.39	-2.26	-3.15	3.35	5.04	5.46	5.56	-1.37	-5.15	-2.21
19.970	-10.33	-8.69	-2.43	5.23	12.25	15.71	14.57	9.81	-1.67	-12.03	-11.57
MAXIMUM	217.30	304.34	149.42	658.49	388.74	311.86	225.25	267.65	138.49	324.84	200.06
@TIME	5.255	5.250	5.265	5.265	5.265	10.965	4.580	4.620	4.620	4.615	4.615
MINIMUM	-231.14	-416.59	-159.29	-283.87	-341.39	-452.89	-335.48	-479.71	-173.06	-331.73	-225.98
@TIME	5.265	5.265	5.720	5.715	5.250	5.250	5.260	5.260	5.265	5.780	5.775

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. 41-00172-2 REV. NO. 2
SHEET NO. 121

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.32	0.00	-0.40	-0.06	0.00	0.06	0.43	0.00	-0.28	-0.04
0.010	0.07	0.31	0.00	-0.38	-0.14	0.00	0.09	0.38	0.00	-0.23	-0.07
0.015	0.04	0.32	0.00	-0.30	-0.03	0.00	0.03	0.30	0.00	-0.26	0.00
0.020	0.14	0.35	0.00	-0.32	-0.18	-0.06	0.03	0.32	0.00	-0.32	-0.04
0.025	0.14	0.35	0.00	-0.39	-0.16	-0.06	0.09	0.35	0.00	-0.32	-0.07
0.030	0.07	0.35	0.00	-0.39	-0.13	-0.06	0.03	0.35	0.00	-0.30	-0.04
0.035	0.07	0.35	0.00	-0.39	-0.16	-0.06	0.06	0.39	0.00	-0.27	-0.07
0.040	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.32	-0.07
0.045	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.31	-0.07
0.050	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.13	0.39	0.00	-0.31	-0.07
0.055	0.14	0.39	0.00	-0.39	-0.18	-0.06	0.10	0.39	0.00	-0.31	-0.07
0.060	0.14	0.39	0.00	-0.39	-0.16	-0.06	0.10	0.39	0.00	-0.31	-0.07
0.065	0.07	0.39	0.00	-0.39	-0.16	-0.06	0.10	0.39	0.00	-0.31	-0.07
0.070	0.07	0.39	0.00	-0.39	-0.13	-0.06	0.13	0.39	0.00	-0.36	-0.07
0.075	0.07	0.39	0.00	-0.39	-0.16	0.00	0.13	0.39	0.00	-0.36	-0.07
0.080	0.07	0.39	0.00	-0.39	-0.16	0.00	0.13	0.39	0.00	-0.35	-0.07
0.085	0.07	0.39	0.00	-0.39	-0.16	0.00	0.13	0.39	0.00	-0.35	-0.07
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19.900	20.25	31.94	12.12	-2.31	-36.68	-76.06	-32.01	7.44	13.68	25.05	17.34
19.905	20.49	32.11	11.60	-3.68	-36.83	-74.28	-30.57	8.12	13.68	23.93	16.51
19.910	19.35	30.12	11.00	-3.68	-34.71	-69.27	-28.84	6.88	12.74	22.66	15.53
19.915	17.18	27.04	10.02	-3.39	-30.85	-61.64	-25.92	5.58	11.13	20.23	14.19
19.920	15.13	23.91	8.43	-3.91	-27.04	-53.22	-21.94	5.47	9.73	16.96	12.05
19.925	13.41	21.04	6.91	-4.59	-23.59	-45.17	-18.30	4.98	8.35	14.07	10.09
19.930	11.41	17.88	5.60	-4.88	-19.71	-36.62	-14.98	4.00	6.90	11.28	8.23
19.935	8.20	13.60	4.42	-3.78	-14.39	-27.04	-10.98	3.42	4.97	7.57	5.81
19.940	3.87	7.33	2.39	-3.04	-6.62	-11.40	-4.84	2.27	2.00	1.51	2.24
19.945	0.47	0.32	0.18	1.52	0.59	-2.22	0.57	2.83	-0.85	-2.90	-0.97
19.950	2.55	7.96	4.93	8.15	-6.68	-31.19	-8.51	7.03	3.47	5.33	2.16
19.955	13.51	23.71	12.68	0.73	-27.26	-59.57	-28.20	1.77	11.24	20.14	13.38
19.960	16.49	20.71	8.50	-7.63	-25.78	-40.26	-26.30	-6.18	8.05	19.14	16.51
19.965	0.13	2.89	0.93	-0.31	-1.16	-4.46	-2.56	1.37	0.93	1.32	1.73
19.970	-9.25	-8.98	-2.70	5.67	11.87	14.23	12.21	7.24	-2.22	-9.71	-9.23
MAXIMUM	227.06	376.31	118.36	453.20	285.38	330.56	237.66	241.81	127.54	354.42	190.28
@TIME	5.255	5.250	5.890	5.265	5.265	10.965	10.965	5.250	7.675	5.750	5.750
MINIMUM	-169.46	-297.29	-169.17	-278.74	-363.47	-490.00	-229.76	-393.82	-140.53	-344.48	-210.65
@TIME	5.265	5.265	7.670	5.725	5.250	5.255	5.890	5.265	5.785	5.770	5.770

CEC JOB NO. 1161-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(B017)-L REV. NO. 3
SHEET NO. 122

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.27	0.00	-0.35	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.23	0.57	0.00	-0.62	0.00	0.00	0.73	0.30	-0.43	-0.30
0.010	0.11	0.48	0.00	-0.37	0.00	0.00	0.78	0.30	-0.32	-0.30
0.015	0.08	0.57	0.30	-0.13	0.08	0.00	0.67	0.08	-0.39	-0.30
0.020	0.21	0.78	0.30	-0.13	0.00	-0.08	0.78	0.30	-0.31	-0.30
0.025	0.19	0.78	0.30	-0.13	-0.11	-0.22	0.78	0.30	-0.15	-0.30
0.030	0.08	0.78	0.30	-0.13	-0.11	-0.19	0.78	0.30	-0.13	-0.30
0.035	0.08	0.76	0.30	-0.15	-0.11	-0.19	0.78	0.30	-0.13	-0.30
0.040	0.08	0.76	0.30	-0.15	-0.22	-0.22	0.85	0.36	-0.13	-0.30
0.045	0.04	0.76	0.30	-0.15	-0.28	-0.28	0.85	0.38	-0.06	-0.24
0.050	-0.04	0.75	0.30	-0.15	-0.34	-0.39	0.88	0.41	0.00	-0.24
0.055	-0.04	0.78	0.30	-0.17	-0.34	-0.39	0.93	0.49	0.02	-0.24
0.060	-0.04	0.78	0.30	-0.15	-0.28	-0.34	0.96	0.47	-0.05	-0.24
0.065	-0.06	0.76	0.30	-0.15	-0.28	-0.34	0.96	0.41	-0.05	-0.24
0.070	-0.04	0.76	0.30	-0.15	-0.28	-0.26	0.93	0.41	-0.03	-0.24
0.075	-0.04	0.76	0.30	-0.13	-0.22	-0.26	0.85	0.41	-0.06	-0.24
0.080	-0.06	0.76	0.30	-0.13	-0.22	-0.26	0.80	0.41	-0.09	-0.24
0.085	0.01	0.76	0.30	-0.15	-0.22	-0.22	0.80	0.30	-0.11	-0.24
0.090	0.08	0.76	0.30	-0.15	-0.22	-0.22	0.80	0.30	-0.13	-0.26
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19.900	-3.41	15.15	12.74	10.68	-15.01	-16.41	8.84	8.89	12.01	-0.57
19.905	-9.37	16.37	15.79	14.05	-21.48	-22.53	11.71	14.08	19.53	1.35
19.910	-14.49	10.46	11.85	11.99	-22.53	-22.91	11.47	15.75	22.46	3.96
19.915	-12.09	6.05	4.67	5.96	-22.71	-21.00	11.95	16.05	23.06	5.82
19.920	-5.86	10.75	6.42	4.68	-25.34	-22.59	13.06	17.93	24.30	5.99
19.925	-6.65	14.51	12.53	9.78	-23.94	-23.41	11.19	16.65	23.62	6.18
19.930	-9.61	10.90	11.87	11.95	-17.49	-18.57	9.72	13.34	19.63	5.23
19.935	-9.90	7.61	7.07	10.25	-3.46	-9.72	1.45	7.01	5.40	4.35
19.940	-13.13	6.48	10.20	17.60	9.41	-3.42	-9.02	-6.56	-6.06	5.49
19.945	-6.53	2.11	10.47	13.56	11.90	3.48	-6.24	-8.22	-8.29	-0.64
19.950	10.20	2.98	-0.95	-2.79	9.76	10.74	4.58	-2.75	-11.28	-8.51
19.955	9.42	6.42	1.04	-3.14	6.26	7.35	5.79	-2.02	-9.92	-7.74
19.960	4.98	1.44	1.44	-4.01	11.59	7.99	-3.79	-6.65	-13.97	-2.94
19.965	6.20	-0.16	-5.96	-8.04	15.83	13.04	-3.18	-11.20	-18.31	-2.01
19.970	-0.93	0.58	0.91	1.36	8.19	7.12	1.51	-3.41	-9.44	-6.56
MAXIMUM	216.72	870.13	341.81	449.74	185.25	300.31	841.87	475.82	482.33	201.80
@TIME	5.905	5.265	5.265	5.250	10.865	10.755	5.265	5.265	5.250	5.255
MINIMUM	-232.34	-455.34	-190.21	-345.77	-841.96	-364.55	-620.39	-139.81	-382.45	-103.88
@TIME	5.250	5.250	10.755	10.755	5.265	5.260	5.250	6.015	5.065	5.065

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DMM DATE 3/16/01
CALC. NO. 61/01-2 REV. NO. 3
SHEET NO. 23

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG LOWER ELEMENTS IN Y-DIRECTION (CASKS 3 AND 4), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.4	0.4	-0.2	-0.3	-0.3	-0.2	0.4	0.4	0.1	0.1
0.005	0.2	0.3	1.0	0.8	-0.3	-0.6	-0.6	-0.3	0.8	1.0	0.3	0.2
0.010	0.2	0.3	1.0	0.9	0.0	-0.3	-0.3	-0.1	0.8	0.9	0.3	0.2
0.015	0.1	0.2	0.9	0.9	0.2	0.1	0.0	0.0	0.8	0.8	0.1	0.2
0.020	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.1	0.9	0.9	0.2	0.2
0.025	0.2	0.3	1.1	1.1	0.3	0.1	-0.1	0.0	0.8	0.9	0.2	0.2
0.030	0.1	0.2	1.0	1.1	0.3	0.1	-0.1	0.0	0.8	0.8	0.2	0.2
0.035	0.2	0.3	1.1	1.0	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.040	0.2	0.3	1.0	1.0	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.045	0.1	0.2	1.0	1.0	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.050	0.1	0.3	1.1	1.0	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.055	0.2	0.3	1.1	1.1	0.3	0.0	-0.2	-0.2	0.7	0.8	0.2	0.2
0.060	0.1	0.3	1.1	1.1	0.3	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.065	0.2	0.3	1.1	1.1	0.2	0.0	-0.2	-0.1	0.7	0.8	0.2	0.2
0.070	0.2	0.3	1.0	1.0	0.2	0.0	-0.1	0.0	0.8	0.9	0.2	0.2
0.075	0.2	0.2	1.0	1.0	0.2	0.0	-0.1	0.0	0.8	0.9	0.2	0.2
0.080	0.2	0.2	1.0	1.0	0.2	0.0	-0.1	0.0	0.8	0.9	0.2	0.2
0.085	0.2	0.3	1.0	1.0	0.2	0.0	-0.1	0.0	0.8	0.9	0.2	0.2
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19.900	-10.0	28.0	88.0	125.7	155.0	82.5	-65.7	-146.9	-138.1	-104.5	-31.7	10.2
19.905	-11.3	15.6	59.4	94.9	136.5	79.8	-55.3	-130.6	-124.4	-95.8	-28.7	9.7
19.910	-11.4	17.8	78.5	107.3	118.7	56.9	-67.1	-129.6	-116.3	-85.5	-22.7	10.2
19.915	-9.7	26.6	97.7	127.0	124.0	51.6	-73.1	-136.9	-125.1	-89.1	-22.9	9.6
19.920	-9.8	19.4	82.6	113.7	116.3	55.8	-55.3	-118.2	-116.8	-87.7	-25.4	7.0
19.925	-7.3	16.1	63.8	86.9	91.2	45.3	-41.5	-88.5	-86.3	-66.0	-19.8	4.8
19.930	-4.4	15.4	53.2	70.5	72.1	35.2	-33.2	-69.8	-67.6	-51.2	-15.8	3.0
19.935	-2.3	13.7	44.0	58.0	57.1	28.0	-24.1	-54.6	-57.0	-44.9	-15.7	1.1
19.940	1.3	11.3	27.8	34.1	28.1	11.8	-11.4	-27.5	-30.6	-24.0	-10.1	-0.9
19.945	0.3	3.5	14.1	13.1	3.1	-2.5	-8.8	-7.5	1.6	3.8	1.0	0.9
19.950	-14.8	2.3	62.1	77.6	75.8	34.9	-63.4	-86.7	-45.6	-23.5	8.1	17.0
19.955	-3.3	42.9	142.6	182.6	150.0	55.3	-82.7	-160.8	-152.2	-105.1	-33.0	5.6
19.960	16.8	58.1	111.0	121.9	70.5	14.0	-24.7	-76.2	-106.7	-92.9	-55.8	-14.8
19.965	4.0	-0.3	-9.4	-22.0	-25.0	-11.2	5.6	22.9	37.2	26.7	4.8	0.2
19.970	-2.6	-21.2	-44.3	-50.7	-36.3	-11.2	14.4	42.3	63.7	58.4	28.5	5.6
MAXIMUM	90.5	411.6	1423.0	1528.2	1156.2	1378.7	1672.9	1828.2	1885.3	1450.3	420.8	128.5
@TIME	12.475	5.250	5.250	5.250	5.255	5.780	5.780	5.780	5.775	5.775	5.775	6.010
MINIMUM	-175.7	-617.7	-1605.6	-1387.8	-1409.4	-1751.4	-1629.5	-1212.3	-1123.9	-1115.3	-413.1	-223.8
@TIME	10.980	5.265	5.265	5.270	5.720	5.720	5.720	5.725	5.750	5.260	5.260	10.845

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 124

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL MXX ALONG UPPER ELEMENTS IN Y-DIRECTION (CASKS 1 AND 2), SECTION:12

TIME	COL- 1	COL- 2	COL- 3	COL- 4	COL- 5	COL- 6	COL- 7	COL- 8	COL- 9	COL-10	COL-11	COL-12
0.000	0.1	0.1	0.5	0.4	-0.2	-0.2	-0.2	-0.2	0.4	0.5	0.1	0.1
0.005	0.2	0.3	1.1	0.9	-0.1	-0.4	-0.4	-0.2	0.9	1.1	0.3	0.2
0.010	0.2	0.3	1.0	1.0	0.2	0.0	-0.1	0.1	0.9	1.0	0.3	0.2
0.015	0.2	0.2	0.9	1.0	0.4	0.4	0.3	0.3	0.8	0.8	0.2	0.2
0.020	0.2	0.3	1.1	1.1	0.5	0.3	0.2	0.3	0.9	0.9	0.3	0.2
0.025	0.2	0.3	1.0	1.1	0.5	0.3	0.2	0.2	0.8	0.8	0.3	0.2
0.030	0.2	0.3	0.9	1.0	0.5	0.4	0.2	0.2	0.7	0.7	0.2	0.2
0.035	0.2	0.3	0.9	0.9	0.4	0.3	0.1	0.1	0.6	0.6	0.2	0.2
0.040	0.2	0.2	0.8	0.9	0.4	0.2	0.1	0.1	0.6	0.6	0.2	0.2
0.045	0.2	0.2	0.8	0.8	0.3	0.3	0.1	0.1	0.5	0.5	0.1	0.2
0.050	0.2	0.2	0.8	0.8	0.4	0.3	0.1	0.0	0.5	0.6	0.2	0.2
0.055	0.2	0.3	0.8	0.9	0.4	0.3	0.1	0.0	0.5	0.5	0.2	0.2
0.060	0.2	0.2	0.8	0.9	0.4	0.3	0.1	0.0	0.5	0.5	0.1	0.2
0.065	0.2	0.2	0.8	0.9	0.4	0.3	0.1	0.1	0.5	0.6	0.2	0.2
0.070	0.2	0.2	0.8	0.8	0.3	0.3	0.1	0.1	0.6	0.6	0.2	0.2
0.075	0.2	0.2	0.8	0.8	0.3	0.3	0.2	0.1	0.6	0.6	0.2	0.2
0.080	0.2	0.2	0.8	0.8	0.3	0.3	0.2	0.1	0.6	0.6	0.2	0.2
0.085	0.2	0.2	0.8	0.8	0.3	0.2	0.1	0.1	0.6	0.6	0.2	0.2
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19.900	-8.0	35.9	110.8	147.9	160.3	81.5	-68.3	-153.7	-155.5	-121.7	-37.7	9.4
19.905	-8.1	35.7	107.3	142.5	154.4	75.7	-71.5	-157.0	-163.1	-128.4	-40.4	7.9
19.910	-9.1	29.0	93.8	128.9	145.1	71.9	-69.3	-154.0	-164.4	-130.7	-42.4	6.3
19.915	-7.8	23.7	77.1	108.9	128.7	67.2	-58.6	-135.5	-149.0	-121.1	-40.2	4.8
19.920	-5.4	23.7	68.8	94.9	112.2	59.5	-48.8	-114.1	-127.0	-103.9	-34.4	3.5
19.925	-3.9	21.7	60.8	85.1	100.3	54.5	-38.4	-96.9	-112.6	-92.9	-30.9	2.3
19.930	-2.8	17.0	47.3	67.8	81.6	46.3	-27.6	-76.8	-94.4	-79.4	-26.9	1.3
19.935	-1.9	11.4	30.3	44.3	55.8	31.9	-19.2	-53.7	-68.1	-57.2	-18.6	0.9
19.940	0.4	5.1	9.4	16.4	23.8	14.8	-5.1	-23.9	-38.6	-34.2	-12.6	-1.3
19.945	-0.7	-2.7	-6.9	-6.9	1.0	2.3	-4.7	-6.2	0.7	0.9	-1.7	0.1
19.950	-3.0	0.4	14.6	21.9	31.8	14.2	-36.4	-44.4	-11.4	0.8	7.7	8.2
19.955	0.0	27.7	80.5	103.0	98.8	41.3	-62.2	-113.8	-98.7	-68.7	-21.1	5.4
19.960	2.9	40.1	102.8	123.8	99.5	37.5	-47.2	-106.9	-112.9	-86.7	-38.6	-0.9
19.965	-0.1	7.7	31.1	34.9	17.3	3.2	-8.2	-13.6	-2.4	4.5	3.9	5.6
19.970	-4.8	-22.0	-40.0	-47.1	-35.9	-9.6	19.6	50.4	72.2	63.9	32.0	7.5
MAXIMUM	67.2	503.9	1410.4	1758.0	1892.9	1782.5	1670.4	1861.0	1931.7	1524.1	536.6	110.3
@TIME	7.795	11.000	5.250	11.000	10.995	10.995	5.780	5.780	5.775	5.775	5.775	10.845
MINIMUM	-126.0	-682.7	-1800.8	-1496.8	-1459.6	-1806.7	-1741.4	-1595.2	-1201.2	-1220.1	-520.2	-194.6
@TIME	13.750	5.265	5.265	5.265	5.710	5.710	5.710	12.470	5.280	10.995	10.995	10.980

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. GCP017-2 REV. NO. 2
SHEET NO. 125

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL MYY ALONG11 ROWS OF ELEMENT IN X-DIRECTION

TIME	ROW- 1	ROW- 2	ROW- 3	ROW- 4	ROW- 5	ROW- 6	ROW- 7	ROW- 8	ROW- 9	ROW-10	ROW-11	ROW-
0.000	-0.4	-0.2	0.6	0.6	-0.4	-0.2	-0.3	0.7	1.0	0.4	0.4	
0.005	-0.8	-0.2	1.3	1.1	-0.7	-0.5	0.0	2.2	2.9	1.7	0.9	
0.010	-0.6	0.0	0.9	0.6	-0.9	0.2	1.4	3.3	3.7	2.3	1.0	
0.015	-0.7	-0.2	0.7	0.5	-0.7	1.1	2.7	4.1	3.9	1.9	0.8	
0.020	-1.3	-0.3	1.0	1.1	-0.1	1.5	3.1	4.4	4.2	2.1	0.8	
0.025	-1.0	0.0	1.2	1.2	0.0	1.8	3.4	4.6	4.3	2.2	0.8	
0.030	-0.4	0.5	1.4	1.1	-0.3	1.8	3.7	4.9	4.3	2.0	0.7	
0.035	0.0	0.9	1.7	1.3	-0.3	1.8	3.8	4.9	4.4	2.0	0.7	
0.040	0.2	1.2	1.9	1.4	-0.2	1.9	3.9	4.9	4.4	1.9	0.6	
0.045	0.2	1.3	2.0	1.5	-0.2	2.0	4.1	5.0	4.3	1.8	0.5	
0.050	0.3	1.4	2.0	1.5	-0.2	2.2	4.3	5.1	4.4	1.8	0.5	
0.055	0.2	1.4	2.1	1.6	-0.1	2.2	4.4	5.3	4.5	1.9	0.5	
0.060	0.2	1.4	2.1	1.6	-0.1	2.3	4.6	5.4	4.6	1.9	0.6	
0.065	0.2	1.3	2.0	1.6	0.0	2.4	4.6	5.4	4.6	2.0	0.6	
0.070	0.1	1.3	2.1	1.6	0.0	2.4	4.6	5.4	4.6	1.9	0.6	
0.075	0.1	1.3	2.1	1.7	0.0	2.3	4.5	5.4	4.6	2.0	0.6	
0.080	0.1	1.3	2.1	1.6	0.0	2.3	4.4	5.4	4.7	2.0	0.6	
0.085	0.0	1.2	2.0	1.6	0.1	2.3	4.3	5.3	4.6	2.0	0.6	
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19.900	30.5	46.7	20.4	-4.4	-37.4	-27.4	19.6	43.2	39.2	35.8	20.2	
19.905	60.7	94.5	61.8	16.4	-54.1	-80.8	-37.3	12.5	45.4	61.1	32.9	
19.910	91.9	119.2	63.5	-12.7	-99.3	-73.8	-8.8	-9.8	-6.8	-28.2	-24.4	
19.915	88.6	88.8	17.5	-47.2	-95.6	-19.2	54.8	3.0	-46.0	-88.4	-55.0	
19.920	51.9	55.4	3.6	-33.9	-62.4	13.1	82.9	40.9	4.8	-39.8	-34.8	
19.925	31.3	54.3	18.3	-15.1	-45.4	32.9	117.7	89.9	53.7	-1.1	-18.7	
19.930	26.8	50.6	19.6	-5.5	-23.1	60.1	140.2	105.1	59.7	1.8	-16.9	
19.935	20.5	45.7	24.6	11.2	0.3	72.8	135.9	96.1	51.4	-2.7	-17.9	
19.940	15.7	51.8	40.1	25.8	7.8	67.0	121.3	86.6	45.7	-4.1	-16.5	
19.945	-31.7	-2.9	22.5	31.5	43.0	84.6	98.1	67.9	37.4	-4.8	-14.7	
19.950	-73.3	-75.2	-35.3	19.3	79.5	128.6	110.6	61.4	23.6	-21.7	-22.4	
19.955	-56.3	-64.4	-43.2	-1.7	51.2	132.2	148.5	99.3	44.2	-15.7	-19.7	
19.960	-46.3	-44.6	-9.7	15.2	42.0	91.1	115.5	121.7	97.3	52.4	18.4	
19.965	-32.9	-30.9	10.3	45.3	61.7	55.6	46.9	86.9	102.2	88.2	43.5	
19.970	0.9	12.5	30.6	40.5	41.6	34.4	27.7	37.1	38.9	32.0	15.1	
MAXIMUM	1042.5	1233.4	1412.8	876.2	1007.3	1452.8	2045.0	2310.5	1902.2	497.1	245.7	
@TIME	10.980	5.260	5.265	6.475	11.010	11.005	5.275	5.275	5.265	6.490	12.510	
MINIMUM	-1303.7	-1263.0	-1744.2	-1984.2	-1817.3	-1176.7	-1242.2	-1777.2	-2022.7	-1202.1	-940.9	
@TIME	5.905	5.905	10.845	10.845	5.265	5.265	5.890	5.250	5.250	5.255	5.260	

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G1(017)-2 REV. NO. 3
SHEET NO. 126

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
LOWER HALF OF LONGIT.(Y) SECTIONS (CASKS 3 AND 4)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.15	0.00	-0.20	-0.07	0.00	0.07	0.20	0.00	-0.15	0.00
0.005	0.02	0.28	0.00	-0.44	-0.15	0.00	0.13	0.44	0.00	-0.28	-0.02
0.010	0.02	0.28	0.00	-0.33	-0.13	0.00	0.10	0.33	0.00	-0.25	0.00
0.015	0.00	0.25	0.00	-0.25	-0.02	0.00	0.02	0.25	0.00	-0.25	0.06
0.020	0.05	0.28	0.00	-0.28	-0.10	0.00	0.02	0.28	0.00	-0.25	0.00
0.025	0.05	0.28	0.00	-0.30	-0.10	-0.06	0.02	0.28	0.00	-0.25	0.00
0.030	0.00	0.28	0.00	-0.30	-0.07	-0.06	0.02	0.30	0.00	-0.25	0.03
0.035	0.00	0.28	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.20	0.00
0.040	0.02	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.00
0.045	0.00	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.03
0.050	0.00	0.31	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.03
0.055	0.02	0.33	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.03
0.060	0.02	0.33	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.03
0.065	0.02	0.33	0.00	-0.33	-0.10	-0.06	0.02	0.33	0.00	-0.17	0.03
0.070	0.00	0.31	0.00	-0.33	-0.07	0.00	0.05	0.33	0.00	-0.25	0.00
0.075	0.00	0.31	0.00	-0.33	-0.07	0.00	0.05	0.33	0.00	-0.25	0.00
0.080	0.00	0.31	0.00	-0.33	-0.07	0.00	0.05	0.33	0.00	-0.25	0.00
0.085	0.00	0.28	0.00	-0.33	-0.07	0.00	0.02	0.33	0.00	-0.28	0.00
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19.900	16.02	21.77	13.65	10.61	-30.64	-74.84	-34.27	3.20	12.16	26.38	17.71
19.905	11.31	15.87	12.84	15.02	-23.94	-68.17	-31.82	2.23	10.36	24.32	16.18
19.910	12.34	21.92	10.44	4.11	-26.07	-62.60	-26.40	4.84	11.11	22.77	13.89
19.915	15.32	25.76	10.61	-1.13	-30.58	-62.98	-26.92	4.30	13.02	24.02	13.70
19.920	12.37	22.95	11.30	0.90	-25.53	-56.09	-26.53	0.49	10.60	22.58	13.67
19.925	9.86	17.28	8.35	1.57	-19.36	-43.85	-19.87	0.82	7.39	16.69	10.41
19.930	8.34	13.72	6.23	0.62	-15.58	-34.55	-15.44	0.81	5.98	12.83	7.93
19.935	6.73	10.98	5.05	-0.32	-12.32	-26.35	-12.85	-0.80	4.39	10.57	7.08
19.940	4.21	6.04	2.28	-2.17	-6.93	-11.77	-6.84	-1.11	2.41	5.01	3.85
19.945	1.38	3.91	-0.35	-3.63	-2.32	-3.16	0.51	3.36	0.79	-1.04	-0.04
19.950	7.14	21.73	5.59	-0.65	-17.26	-49.64	-9.88	14.92	8.04	11.42	3.77
19.955	19.53	36.07	14.51	-11.79	-39.95	-69.75	-32.94	3.12	17.10	26.12	16.28
19.960	17.43	19.18	3.99	-18.61	-23.85	-19.52	-21.74	-11.10	4.97	13.47	17.28
19.965	-1.82	-3.28	-4.62	-1.07	5.83	8.48	7.28	5.20	-3.79	-7.94	-1.98
19.970	-7.80	-8.38	-2.35	5.23	10.62	12.92	11.77	7.76	-1.96	-10.83	-9.65
MAXIMUM	227.04	366.42	137.63	549.28	354.65	331.09	286.18	283.67	137.22	268.02	153.50
@TIME	5.250	5.250	5.260	5.265	5.265	4.960	6.010	6.015	5.725	5.750	5.260
MINIMUM	-224.29	-357.95	-162.75	-310.13	-359.87	-471.01	-305.29	-425.12	-169.20	-373.04	-213.19
@TIME	5.265	5.265	5.720	6.010	5.250	5.250	5.260	5.260	5.780	5.775	5.775

CEC JOB NO. 1101-006
BY DA DATE 3/16/01
CHECK qum DATE 3/16/01
CALC. NO. C(1017)-2 REV. NO. 2
SHEET NO. 127

OUTPUT BY POST PROCESSOR "SHEARX3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MXX GRADIENTS)
UPPER HALF OF LONGIT.(Y) SECTIONS (CASKS 1 AND 2)

TIME	1	2	3	4	5	6	7	8	9	10	11
0.000	0.00	0.14	0.00	-0.21	-0.06	0.00	0.06	0.21	0.00	-0.14	0.00
0.005	0.04	0.26	0.00	-0.43	-0.06	0.00	0.06	0.43	0.00	-0.26	-0.04
0.010	0.00	0.28	0.00	-0.28	-0.09	0.00	0.09	0.28	0.00	-0.28	0.00
0.015	0.00	0.24	0.00	-0.22	0.01	0.00	-0.01	0.22	0.00	-0.22	0.03
0.020	0.08	0.24	0.00	-0.19	-0.09	0.00	-0.01	0.22	0.00	-0.24	0.00
0.025	0.08	0.27	0.00	-0.22	-0.05	-0.06	-0.01	0.22	0.00	-0.22	0.00
0.030	0.00	0.24	0.00	-0.19	-0.05	-0.06	-0.03	0.22	0.00	-0.19	0.03
0.035	0.00	0.24	0.00	-0.24	-0.05	-0.06	-0.03	0.24	0.00	-0.14	0.03
0.040	0.00	0.24	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.13	0.03
0.045	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.13	0.03
0.050	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.15	0.03
0.055	0.03	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.15	0.03
0.060	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.15	0.03
0.065	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.15	0.03
0.070	0.00	0.20	0.00	-0.20	-0.05	-0.06	-0.03	0.20	0.00	-0.20	0.03
0.075	0.00	0.20	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.03
0.080	0.00	0.20	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.20	0.03
0.085	0.00	0.24	0.00	-0.20	-0.05	0.00	-0.03	0.20	0.00	-0.18	0.03
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19.900	18.51	27.16	13.45	4.46	-33.21	-75.70	-36.08	-0.61	12.26	30.41	19.85
19.905	18.49	25.96	12.76	4.34	-33.21	-74.35	-36.11	-2.23	12.55	31.83	20.41
19.910	16.06	23.46	12.77	5.87	-30.85	-71.35	-35.76	-3.77	12.25	31.98	20.54
19.915	13.28	19.29	11.54	7.14	-25.95	-63.54	-32.45	-4.87	10.14	29.32	18.96
19.920	12.25	16.34	9.45	6.25	-22.21	-54.69	-27.53	-4.67	8.33	25.21	16.03
19.925	10.79	14.22	8.76	5.54	-19.31	-46.90	-24.70	-5.73	7.17	22.44	13.97
19.930	8.37	11.02	7.40	5.07	-14.94	-37.30	-20.78	-6.35	5.44	19.04	11.89
19.935	5.58	6.87	5.07	4.13	-10.10	-25.84	-14.54	-5.21	3.90	14.01	8.20
19.940	1.98	1.58	2.55	2.65	-3.79	-10.10	-7.91	-5.36	1.59	7.84	4.74
19.945	-0.83	-1.54	0.04	2.84	0.54	-3.49	-0.60	2.50	0.09	-0.96	0.80
19.950	1.37	5.20	2.59	3.61	-7.45	-25.59	-3.36	11.95	4.42	2.48	0.18
19.955	11.64	19.10	8.15	-1.53	-24.28	-52.25	-21.77	5.50	10.86	17.25	11.22
19.960	15.72	22.71	7.64	-8.81	-26.18	-42.75	-25.20	-2.17	9.50	17.42	15.88
19.965	3.30	8.46	1.38	-6.34	-5.98	-5.78	-2.27	4.04	2.51	-0.26	0.69
19.970	-7.26	-6.55	-2.60	4.08	11.12	14.75	13.01	7.85	-3.01	-11.61	-10.30
MAXIMUM	224.88	344.11	205.41	593.63	387.94	407.90	243.30	266.96	186.91	278.14	181.46
@TIME	5.250	5.250	10.995	5.265	5.265	5.795	6.010	5.705	12.470	5.280	10.995
MINIMUM	-247.85	-405.08	-167.76	-295.94	-381.97	-499.40	-386.29	-496.63	-160.37	-357.82	-230.91
@TIME	5.265	5.265	5.715	5.700	5.250	5.250	10.995	5.260	5.785	5.775	5.775

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. G(1017)-2 REV. NO. 3
SHEET NO. 128

OUTPUT BY POST PROCESSOR "SHEARY3.FOR" VERSION:3/13/01

TOTAL SHEAR FORCES (SUM OF MYY GRADIENTS) OF TRANSVERSE(X) SECTIONS

TIME	1	2	3	4	5	6	7	8	9	10
0.000	0.08	0.27	0.00	-0.35	0.00	0.00	0.46	0.00	-0.16	0.00
0.005	0.23	0.43	0.00	-0.73	0.00	0.00	0.75	0.30	-0.43	-0.30
0.010	0.19	0.29	0.00	-0.54	0.30	0.30	0.67	0.11	-0.50	-0.30
0.015	0.19	0.34	0.00	-0.45	0.49	0.41	0.43	0.00	-0.76	-0.30
0.020	0.38	0.43	0.00	-0.48	0.41	0.41	0.45	0.00	-0.78	-0.30
0.025	0.38	0.41	0.00	-0.48	0.47	0.41	0.43	0.00	-0.78	-0.30
0.030	0.38	0.34	0.00	-0.50	0.52	0.49	0.43	-0.26	-0.80	-0.30
0.035	0.38	0.29	-0.11	-0.50	0.52	0.52	0.43	-0.26	-0.85	-0.30
0.040	0.38	0.26	-0.22	-0.60	0.52	0.52	0.43	-0.26	-0.88	-0.30
0.045	0.43	0.20	-0.22	-0.64	0.52	0.52	0.35	-0.30	-0.94	-0.30
0.050	0.43	0.17	-0.22	-0.61	0.61	0.52	0.28	-0.30	-0.96	-0.30
0.055	0.46	0.23	-0.22	-0.61	0.66	0.52	0.28	-0.30	-0.96	-0.32
0.060	0.46	0.23	-0.22	-0.61	0.71	0.54	0.28	-0.30	-0.98	-0.32
0.065	0.46	0.23	-0.22	-0.61	0.71	0.54	0.25	-0.30	-0.98	-0.32
0.070	0.49	0.26	-0.14	-0.55	0.64	0.52	0.30	-0.30	-0.98	-0.32
0.075	0.49	0.26	-0.14	-0.55	0.56	0.52	0.37	-0.30	-0.98	-0.32
0.080	0.46	0.29	-0.11	-0.53	0.58	0.52	0.43	-0.30	-0.98	-0.32
0.085	0.46	0.34	-0.11	-0.50	0.52	0.52	0.43	-0.30	-0.98	-0.32
0.090	0.46	0.34	-0.11	-0.50	0.52	0.52	0.43	-0.30	-0.96	-0.30
.										
.										
.										
19.900	6.19	-9.53	-8.98	-11.97	2.62	12.18	8.54	-1.44	-1.28	-4.68
19.905	12.89	-11.88	-16.45	-25.56	-6.87	11.24	18.08	11.90	5.70	-8.41
19.910	10.45	-20.17	-27.61	-31.40	6.53	16.88	-0.33	1.14	-7.78	1.08
19.915	0.14	-25.83	-23.41	-17.53	19.80	19.20	-18.76	-17.74	-15.39	9.87
19.920	1.38	-18.80	-13.60	-10.30	19.54	18.09	-15.21	-13.12	-16.15	1.50
19.925	8.81	-13.06	-12.10	-11.00	20.28	21.96	-10.04	-13.13	-19.80	-5.23
19.930	9.08	-11.26	-9.08	-6.37	21.52	20.78	-12.68	-16.44	-21.01	-5.55
19.935	9.65	-7.68	-4.83	-3.91	18.78	16.34	-14.45	-16.17	-19.60	-4.51
19.940	13.78	-4.21	-5.16	-6.50	15.34	14.05	-12.59	-14.84	-18.06	-3.67
19.945	11.00	9.21	3.26	4.17	10.83	3.50	-10.97	-11.07	-15.27	-2.96
19.950	-0.69	14.42	19.76	21.80	12.71	-4.62	-17.75	-13.75	-16.41	-0.24
19.955	-3.09	7.69	15.08	19.15	21.00	4.26	-17.84	-19.92	-21.67	-1.18
19.960	0.74	12.65	9.04	9.64	12.72	6.35	2.26	-8.86	-16.27	-10.07
19.965	0.73	14.91	12.66	5.93	-1.54	-2.28	14.44	5.46	-5.06	-13.26
19.970	4.40	6.60	3.60	0.42	-1.90	-1.80	3.38	0.65	-2.55	-4.98
MAXIMUM	458.11	382.28	213.29	510.08	273.50	630.28	343.10	175.12	435.62	229.25
@TIME	5.265	5.900	5.905	5.250	10.845	5.265	5.750	5.890	5.250	10.860
MINIMUM	-353.89	-486.59	-380.06	-790.30	-252.67	-246.78	-594.23	-275.60	-603.17	-195.50
@TIME	10.845	5.250	5.265	5.265	5.750	5.250	5.250	5.275	5.275	5.270

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK [illegible] DATE 3/16/01
CALC. NO. CLP017-2 REV. NO. 3
SHEET NO. 125

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
2l														
2lmxx1.tot	MAXIMUM	87.2	311.3	451.5	479.1	543.3	573.2	602.7	670.2	642.7	468.7	233.9	75.8	
	MINIMUM	-52	-453.2	-1367.9	-1447.7	-942	-871.8	-621.3	-639.7	-946	-1061.8	-436	-74.1	
2lmxx2.tot	MAXIMUM	79	402.2	1192.9	1352	1403.3	1316.6	1325.6	1295.7	1162.9	953.7	536.6	157.7	1403.3
	MINIMUM	-336.4	-892.9	-2024	-2283.8	-1357.1	-1222	-1601.7	-1869	-1829	-1992.4	-762.1	-208.7	-2283.8
2lmyy.tot	MAXIMUM	2907.6	2967.9	2694.2	2270	1682.8	2089.7	2443.6	2355.8	1749.1	819.5	362.2		2967.9
	MINIMUM	-751.6	-834.4	-1136.2	-1567.7	-2516.4	-4432.9	-5540.3	-4816	-4038.2	-2312.5	-681.6		-5540.3
2lshx1.tot	MAXIMUM	98.64	81.07	70.37	307.46	222.28	154.54	187.67	140.86	107.66	226.75	152.67		
	MINIMUM	-181.77	-331.46	-125.08	-142.77	-171.6	-123.04	-220.34	-304.36	-63.06	-92.46	-72.29		
2lshx2.tot	MAXIMUM	184.68	329.41	148.48	404.3	239.64	331.03	286.94	374.9	226.89	445.76	278.45		445.76
	MINIMUM	-234.81	-409.85	-128.53	-249.64	-402.55	-608.2	-374.58	-583.71	-150.11	-229.57	-161.85		-608.2
2lshy.tot	MAXIMUM	299.03	223.7	178.31	204.38	237.02	175.67	1006.93	659.81	625.24	483.99			1006.93
	MINIMUM	-383.85	-541.07	-618.26	-803.32	-1135.7	-632.99	-754.64	-239.56	-435.62	-176.51			-1135.69
4l														
4lmxx1.tot	MAXIMUM	113.4	355	894.7	1060.1	1109.2	1605.4	1874.6	1639.9	1474.2	1037.2	378.6	122.8	
	MINIMUM	-276.2	-652.7	-1531	-1177.2	-1356.7	-1451.8	-1601	-1853.6	-1962.8	-1678.4	-527.5	-146.5	
4lmxx2.tot	MAXIMUM	112.3	416.7	1153.2	1682.8	1824.8	2026.1	2310	2341.5	2076.9	1421.7	504.7	104.7	2341.5
	MINIMUM	-206.7	-544.2	-997.1	-1089.2	-1811.8	-2050.1	-2094.7	-1992.1	-2189.4	-1951.2	-729	-117.9	-2189.4
4lmyy.tot	MAXIMUM	1464.8	1645.4	1796.3	1501.8	1839.9	1671.9	1774.9	2109.2	1691.5	1005.7	401.6		2109.2
	MINIMUM	-3047.1	-3404.5	-2693	-2507.9	-2873	-2631.9	-3453.6	-2607.3	-2287.4	-2002.6	-874.5		-3453.6
4lshx1.tot	MAXIMUM	142.73	237.72	165.8	630.43	396.08	288.5	194.16	324.43	197.8	417	210.68		
	MINIMUM	-202.05	-318.21	-157.45	-279.01	-323.01	-466.82	-297.69	-427.89	-218.57	-238.67	-144.7		
4lshx2.tot	MAXIMUM	159.85	266.86	191.9	477.19	371.11	308.88	224.99	374.84	237.7	442.84	263.16		630.43
	MINIMUM	-175.7	-273.21	-209.27	-290.32	-327.49	-420.7	-316.48	-348.07	-237.38	-332.26	-198.64		-466.82
4lshy.tot	MAXIMUM	229.6	589.5	311.12	442.17	300.72	589.99	742.42	398.17	403.22	334.78			742.42
	MINIMUM	-240.55	-329.58	-456.85	-535.09	-593.39	-334.74	-479.28	-188.88	-391.69	-187.82			-593.39

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK AWM DATE 3/16/01
CALC. NO. C1(012)-2 REV. NO. 3
SHEET NO. 130

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
8l														
8lmxx1.tot	MAXIMUM	118.4	627.2	1312.5	1692.6	1585.1	1678.7	1836.1	2030.8	1775.6	1400.5	634.4	102.8	
	MINIMUM	-142.1	-563.4	-1559.8	-1784.3	-1885.5	-1970.9	-1997.4	-1634.9	-1198.8	-1104.1	-480.6	-155.3	
8lmxx2.tot	MAXIMUM	124.3	652.6	1367	1802.7	1896.8	1963.7	1845.8	1961.7	1804.2	1528.3	702.1	100.8	2030.8
	MINIMUM	-198.8	-725.3	-1578.4	-1734.6	-2305.3	-2504.7	-2478.6	-1987.9	-1830.3	-1646.4	-786.9	-183.1	-2504.7
8lmyy.tot	MAXIMUM	1647.7	1327.1	1351.4	1285.9	1205.7	1441.7	1758.7	1819.6	1386.3	880.5	357.3		1819.6
	MINIMUM	-1581.7	-2006.5	-1817.4	-1749.2	-1813.7	-3083.1	-4075.8	-2229.6	-1833.8	-1030.2	-574.2		-4075.8
8lshx1.tot	MAXIMUM	214.64	285	185.69	458.93	300.71	313.9	260.08	276.52	200.57	245.06	159.59		
	MINIMUM	-202.52	-384.09	-192.32	-234.93	-311.92	-430.16	-190.52	-324.12	-196.74	-277.56	-226.57		
8lshx2.tot	MAXIMUM	222.9	330.91	194.81	420.27	326.52	324.66	264.42	355.82	249.71	311.4	254.8		458.93
	MINIMUM	-243.85	-309.07	-234.69	-364.01	-366.72	-457.85	-257.54	-297.04	-215.99	-299.29	-253.71		-457.85
8lshy.tot	MAXIMUM	287.26	628.06	286.79	495.27	230.82	316.38	797.27	576.45	395.28	207.69			797.27
	MINIMUM	-258.98	-363.63	-249.13	-442.88	-736.43	-330.55	-557.11	-180.82	-416.03	-167.03			-736.43
8lfth														
8lfthmxx1.tot	MAXIMUM	134.3	525.1	1300.1	1548.6	1844.1	2160.5	2186.9	1967.6	1548.7	1279	475	128.3	
	MINIMUM	-274.1	-707	-1644	-2063.4	-1948.1	-1904.6	-1904.7	-1580	-1165.9	-1166.1	-467.9	-172.8	
8lfthmxx2.tot	MAXIMUM	113.1	937.4	1985.9	2083	2443.6	2569.5	2290.7	2089.5	1984.8	1416.5	518.7	113.7	2569.5
	MINIMUM	-340.8	-1209.1	-2425.8	-2781	-2333.6	-2310.8	-2620.9	-2613.7	-2246.7	-1816.1	-666.2	-150.1	-2781
8lfthmyy.tot	MAXIMUM	1668	1971	2194.7	1929.2	1951.3	1978.9	2634.8	3383.2	3070.9	1809.1	510.6		3383.2
	MINIMUM	-1626.8	-1462.4	-1049	-1160.9	-1609.6	-1490.4	-2004.3	-1997	-2156	-1592.7	-1143.3		-2156
8lfth-sx1.tot	MAXIMUM	200.57	296.12	216.6	493.28	363.52	349.77	288.98	301.32	210.14	262.04	160.42		
	MINIMUM	-250.64	-348.42	-191.56	-296.08	-312.92	-393.95	-254.27	-404.89	-233.51	-300.53	-196.49		
8lfth-sx2.tot	MAXIMUM	347.91	379.88	291.35	667.1	395.38	388.67	305.41	446.28	330.04	416.59	252.05		667.1
	MINIMUM	-366.35	-530.59	-246.74	-383.64	-501.41	-615.33	-351.22	-452.95	-208.55	-325.29	-200.49		-615.33
8lfth-sy.tot	MAXIMUM	437.8	336.46	256.71	429.04	362.92	736.61	420.7	310.56	389.53	241.09			736.61
	MINIMUM	-235.22	-291.11	-317.07	-617.92	-462.57	-283.47	-490.73	-353.33	-768.69	-385.32			-768.69

CEC JOB NO. 1101-006
BY DH DATE 3/16/01
CHECK AUM DATE 3/16/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 131

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
2b														
2bmxx1.tot	MAXIMUM	124.3	367.6	675.6	795.7	686.8	639.5	687.1	776	749.4	545.6	250.5	66.1	
	MINIMUM	-42.2	-242.1	-703.9	-730.6	-457.1	-455	-454	-403.9	-739.2	-852.9	-351.7	-60.1	
2bmxx2.tot	MAXIMUM	79.8	439.9	1206.6	1760	1708.3	1350.9	1569.8	1607.2	1489	1032.4	377.8	116.5	1760
	MINIMUM	-376.4	-669.9	-1620.2	-1497.5	-1095.4	-1155	-1342.6	-1216.6	-1546.6	-1434.1	-553.8	-135.3	-1620.2
2bmyy.tot	MAXIMUM	2463.6	2501.3	2340.7	1873.8	1555.5	1591	1940.6	1947	1428.1	633.6	366.7		2501.3
	MINIMUM	-572.5	-644	-892.7	-1249.7	-2062.7	-4110.5	-4909.1	-2781.5	-2641.1	-1128.4	-614.5		-4909.1
2bshx1.tot	MAXIMUM	106.37	111.64	65.18	216.88	132.77	116.67	85.25	75.91	50.75	181.58	123		
	MINIMUM	-89.9	-167.32	-51.91	-60.22	-75.24	-107.76	-201.81	-262.47	-73.84	-106.89	-81.91		
2bshx2.tot	MAXIMUM	190.07	355.47	200.52	448.09	308.89	349.9	319.51	263.45	143.95	363.27	202.28		448.09
	MINIMUM	-230.47	-344.3	-147.97	-290.99	-351.14	-506.01	-342.72	-501.4	-173.73	-256.81	-153.58		-506.01
2bshy.tot	MAXIMUM	201.2	190.16	189.97	187.01	199.99	158.74	932.02	613.55	607.93	245.46			932.02
	MINIMUM	-289.72	-411.25	-494.74	-677.34	-995.83	-474.98	-609.15	-195.86	-422.79	-134.32			-995.83
4b														
4bmxx1.tot	MAXIMUM	108.7	384.9	1322.3	1593.5	1759.6	1867.4	1873.3	1736.9	1440.3	1073.7	554.7	166.5	
	MINIMUM	-342.9	-841.9	-2265.4	-2071.6	-1695.1	-1770.3	-1976.6	-1631.1	-2024	-2312.6	-831.9	-167.6	
4bmxx2.tot	MAXIMUM	181.3	673	1557.9	2199.5	2154.6	2251.1	2369.6	2181.4	1673.9	1297.7	738	164.2	2369.6
	MINIMUM	-233.4	-869.3	-2328.7	-1922.4	-2315.4	-2714.4	-3835	-4115.5	-2850	-2404	-968.9	-329.2	-4115.5
4bmyy.tot	MAXIMUM	1687.7	1367.7	1411.3	1820.7	1615.9	1492.7	1759.7	1901.2	1459.1	539.3	305.6		1901.2
	MINIMUM	-3644.6	-3158.8	-2408.6	-2695.3	-3419.3	-3653.1	-5400.2	-2967.5	-2455.5	-1471.7	-605		-5400.2
4bshx1.tot	MAXIMUM	205.39	383.34	202.22	647.66	394.93	321.19	255.43	387.81	203.99	536.51	312.24		
	MINIMUM	-308.97	-515.72	-185.52	-240.21	-426.82	-568.92	-476.42	-750.31	-188.87	-257.86	-163.8		
4bshx2.tot	MAXIMUM	232.74	392.17	232.48	741.16	419.86	539.87	445.21	465.8	483.19	519.97	342.84		741.16
	MINIMUM	-314.75	-528.74	-318.12	-463.08	-751.71	-934.09	-493.85	-634.9	-230.43	-263.48	-242.13		-934.09
4bshy.tot	MAXIMUM	366.36	1205.35	598.87	776.43	383.48	540.64	1029.5	740.45	492.62	288.59			1205.35
	MINIMUM	-486.41	-762.15	-592.39	-718.84	-1038.4	-452.63	-583.13	-163.7	-353.97	-154.15			-1038.4

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK Quinn DATE 3/16/01
CALC. NO. G(PDF)-2 REV. NO. 3
SHEET NO. 132

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
8b														
8bmxx1.tot	MAXIMUM	145.1	694.9	1432.1	1830.4	1676	1506	1431.5	1209.7	1211.1	993.6	368.8	96.6	
	MINIMUM	-141	-618.4	-1819.9	-1533.5	-1788.1	-2157.2	-3042.8	-3086.6	-2181.3	-1560.1	-673.7	-151.4	
8bmxx2.tot	MAXIMUM	86.7	487.8	1325.1	1692	1780.2	1737.2	1635.7	1416.6	1318.5	1079.5	367.8	83.5	1830.4
	MINIMUM	-354.1	-621.3	-1526.4	-1462.3	-1599.1	-2101	-2834.7	-2838.7	-2308.3	-1665.8	-756	-227.7	-3086.6
8bmyy.tot	MAXIMUM	1454	1730	1629.3	2685.3	2212.5	1747.5	1920.7	1911.9	1637.4	928	405.7		2685.3
	MINIMUM	-2797.9	-2093.1	-1770.5	-1757.4	-2713.2	-2645.9	-4306.8	-2630.9	-1903.5	-1145.6	-739.8		-4306.8
8bshx1.tot	MAXIMUM	239.24	321.78	168.12	611.33	414.96	467.99	332.72	480.1	392.49	346.22	244.89		
	MINIMUM	-245.83	-435.31	-269.6	-317.8	-570.67	-695.43	-274.27	-604.41	-155.04	-257.28	-146.05		
8bshx2.tot	MAXIMUM	192.37	303.38	184.93	442.68	248.23	340.26	265.88	449.13	353.6	343.5	265.92		611.33
	MINIMUM	-194.6	-382.76	-231.63	-345.19	-525.69	-603.95	-289.66	-373.17	-160.13	-257.87	-167.85		-695.43
8bshy.tot	MAXIMUM	280.93	1142.57	588.77	575.31	221.95	430.83	641.19	521.93	401.7	229.55			1142.57
	MINIMUM	-333.01	-431.87	-414.25	-404.43	-946.11	-504.63	-478.4	-253.37	-394.17	-193.16			-946.11
8bfth														
8bfthmxx1.tot	MAXIMUM	82.5	440.8	1391.7	1597.1	1560.5	1760.5	2179	2226.8	1945.5	1460.6	595.4	108	
	MINIMUM	-641.2	-589.6	-1547.6	-1338.9	-1543.5	-1448.7	-1592.9	-1660	-1351.9	-1731.6	-625.2	-143.8	
8bfthmxx2.tot	MAXIMUM	113	597.7	1321.5	1725.8	1655.5	1811.8	1834.1	1959.3	1890.7	1373.7	577.8	107.7	2226.8
	MINIMUM	-136.3	-711.6	-1818.9	-1998	-1632.4	-1601.5	-1497.6	-1920.8	-2499.5	-2241	-881.8	-207.1	-2499.5
8bfthmyy.tot	MAXIMUM	1281.7	1178.7	1524	1679.5	2062.2	1885.9	2585.2	2319.9	1830.5	880.9	385.9		2585.2
	MINIMUM	-992.1	-1212.7	-2868.2	-2674.6	-3250	-2431.4	-1400.9	-2009.6	-2155.7	-1558.3	-1275.6		-3250
8bfth-sx1.tot	MAXIMUM	222.85	472.51	221.69	628.14	393.27	296.53	243.01	268.95	202.02	400.86	232.06		
	MINIMUM	-214.63	-360.42	-163.33	-268.59	-343.41	-523.21	-397.99	-715.86	-242.83	-313.5	-218.37		
8bfth-sx2.tot	MAXIMUM	204.53	330.05	189.63	717.2	353.22	307.99	279.9	300.29	189.89	566.93	306		717.2
	MINIMUM	-248.24	-446.12	-165.56	-253.54	-299.44	-410.78	-257.13	-449.67	-214.68	-290.01	-205.23		-715.86
8bfth-sy.tot	MAXIMUM	628.46	422.51	321.45	799.49	424.49	863.63	348.28	211.83	317.44	265.32			863.63
	MINIMUM	-580.71	-692.13	-510.02	-1219.7	-263.29	-291.94	-381.12	-339.74	-630.37	-202.66			-1219.69

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK Quin DATE 3/16/01
CALC. NO. G(P012)-2 REV. NO. 2
SHEET NO. 133

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
2u														
2umxx1.tot	MAXIMUM	87.6	277	473.4	498	485.7	477.9	414.3	409.4	422.1	403.5	230.7	70.6	
	MINIMUM	-36.5	-195	-509.1	-500.6	-361.4	-330.2	-355.2	-328.8	-495.5	-498.9	-169.4	-32.5	
2umxx2.tot	MAXIMUM	67.9	266.2	1138.3	1337.5	1243.2	1218.3	1154.2	878.8	1160.3	984.6	343.5	65	1337.5
	MINIMUM	-366.9	-396.3	-1098.1	-1113.5	-1124	-1174.6	-1579	-1470.4	-867.1	-916.8	-351.4	-138.8	-1579
2umyy.tot	MAXIMUM	1285.5	1296.7	1328.7	1111.2	1055.9	1730.8	2226.5	2195.2	1493.9	558.6	339.1		2226.5
	MINIMUM	-366.9	-398.9	-406.6	-525.5	-1050.5	-2680.1	-3072.5	-2493.2	-2502.5	-1261.6	-688.6		-3072.5
2ushx1.tot	MAXIMUM	80.03	71.14	56.11	183.65	107.08	77.62	77.89	56.1	35.91	120.92	61.3		
	MINIMUM	-66.88	-121.61	-41.67	-53.92	-69.09	-72.74	-81.55	-169.46	-46.17	-62.61	-67.6		
2ushx2.tot	MAXIMUM	173.15	335.72	144.63	326.71	180.71	473.17	312.85	313.04	171.11	245.14	124.57		473.17
	MINIMUM	-147.68	-254.32	-133.14	-193.01	-298.53	-509.97	-168.74	-293.65	-117.72	-266.22	-152.75		-509.97
2ushy.tot	MAXIMUM	121.43	113.36	118.07	150.82	195.23	146.36	697.7	417.76	541.88	244.54			697.7
	MINIMUM	-143.47	-198.35	-268.11	-381.88	-623.59	-315.65	-571.26	-258.61	-562.89	-129.17			-623.59
4u														
4umxx1.tot	MAXIMUM	125.3	309	1282.5	1476.4	1039	831.1	998	1362.1	1421.2	1042.4	342	98.2	
	MINIMUM	-246.6	-594.7	-1643.6	-1612.9	-1018.5	-969.6	-1298	-1446.9	-1199	-1053.2	-395.7	-254.2	
4umxx2.tot	MAXIMUM	68.9	454.6	1440.2	1646.5	1256.5	1184.6	1056.1	1281.1	1623.4	1375.6	526.2	116.5	1646.5
	MINIMUM	-176.6	-499.3	-1384.9	-1616.8	-1237.4	-1373.2	-1749.2	-1708.4	-1441.7	-1310.5	-418.4	-162.7	-1749.2
4umyy.tot	MAXIMUM	1023.7	970.6	1100.1	1165.9	888.7	1173.1	1672.1	1854.2	1406.7	914.7	501.2		1854.2
	MINIMUM	-2783.8	-2348.1	-2287.5	-1859.1	-1249.6	-2190.7	-3123.6	-2293.2	-2247.6	-1224.3	-510.3		-3123.6
4ushx1.tot	MAXIMUM	205.73	355.44	110.24	416.03	283.33	387.76	270.76	276.81	185.29	258.24	149.51		
	MINIMUM	-216.32	-380.03	-120.44	-241.21	-338.5	-469.89	-219.68	-303.44	-157.45	-313.48	-152.46		
4ushx2.tot	MAXIMUM	232.41	375.96	121.62	376.88	226.11	376.94	283.38	379.33	224.58	326.29	160.94		416.03
	MINIMUM	-184.55	-320.84	-152.3	-298.13	-386.71	-506.08	-199.02	-302.07	-108.8	-315.91	-222.5		-506.08
4ushy.tot	MAXIMUM	186.38	783.49	402.94	608.89	383.43	477.25	648.33	350.94	436.36	241.19			783.49
	MINIMUM	-332.54	-525.01	-260.85	-497.24	-616.37	-363.62	-551.04	-224.02	-548.26	-122.66			-616.37

CEC JOB NO. 1101-008
BY DH DATE 3/16/01
CHECK OWM DATE 3/16/01
CALC. NO. G(P07)-2 REV. NO. 3
SHEET NO. 134

Envelopes of results from SHEARX3 and SHEARY3.

Filename		Section 1	2	3	4	5	6	7	8	9	10	11	12	Envelope
8u														
8umxx1.tot	MAXIMUM	94.3	478.6	1281.3	1347.5	1181.8	1392.1	1506.3	1687.5	1771.4	1459.1	543.7	119	
	MINIMUM	-134.3	-612.9	-1762.7	-1469.9	-1353.7	-1623.3	-1419.4	-1284.6	-1396.8	-1422.7	-526.1	-223.5	
8umxx2.tot	MAXIMUM	60	470.7	1417.3	1543.9	1166.5	1254.5	1357.5	1606.7	1713.3	1375.2	426.3	85	1771.4
	MINIMUM	-230	-453	-1271.4	-1076.8	-1450.9	-1627.2	-1388.8	-1176.2	-1601.1	-1485.5	-507.3	-236	-1762.7
8umyy.tot	MAXIMUM	977.8	1056.7	954.9	1898.3	1327.4	1108.6	1185.4	1499.3	1162.7	533.9	308.1		1898.3
	MINIMUM	-1872.1	-1524.2	-1055	-932.6	-1095.8	-2100	-3451.4	-1989.4	-2037.3	-1043.7	-530		-3451.4
8ushx1.tot	MAXIMUM	217.3	304.34	149.42	658.49	388.74	311.86	225.25	267.65	138.49	324.84	200.06		
	MINIMUM	-231.14	-416.59	-159.29	-283.87	-341.39	-452.89	-335.48	-479.71	-173.06	-331.73	-225.98		
8ushx2.tot	MAXIMUM	227.06	376.31	118.36	453.2	285.38	330.56	237.66	241.81	127.54	354.42	190.28		658.49
	MINIMUM	-169.46	-297.29	-169.17	-278.74	-363.47	-490	-229.76	-393.82	-140.53	-344.48	-210.65		-490
8ushy.tot	MAXIMUM	216.72	870.13	341.81	449.74	185.25	300.31	841.87	475.82	482.33	201.8			870.13
	MINIMUM	-232.34	-455.34	-190.21	-345.77	-841.96	-364.55	-620.39	-139.81	-382.45	-103.88			-841.96
8ufth														
8ufthmxx1.tot	MAXIMUM	90.5	411.6	1423	1528.2	1156.2	1378.7	1672.9	1828.2	1885.3	1450.3	420.8	128.5	
	MINIMUM	-175.7	-617.7	-1605.6	-1387.8	-1409.4	-1751.4	-1629.5	-1212.3	-1123.9	-1115.3	-413.1	-223.8	
8ufthmxx2.tot	MAXIMUM	67.2	503.9	1410.4	1758	1892.9	1782.5	1670.4	1861	1931.7	1524.1	536.6	110.3	1931.7
	MINIMUM	-126	-682.7	-1800.8	-1496.8	-1459.6	-1806.7	-1741.4	-1595.2	-1201.2	-1220.1	-520.2	-194.6	-1806.7
8ufthmyy.tot	MAXIMUM	1042.5	1233.4	1412.8	876.2	1007.3	1452.8	2045	2310.5	1902.2	497.1	245.7		2310.5
	MINIMUM	-1303.7	-1263	-1744.2	-1984.2	-1817.3	-1176.7	-1242.2	-1777.2	-2022.7	-1202.1	-940.9		-2022.7
8ufth-sx1.tot	MAXIMUM	227.04	366.42	137.63	549.28	354.65	331.09	286.18	283.67	137.22	268.02	153.5		
	MINIMUM	-224.29	-357.95	-162.75	-310.13	-359.87	-471.01	-305.29	-425.12	-169.2	-373.04	-213.19		
8ufth-sx2.tot	MAXIMUM	224.88	344.11	205.41	593.63	387.94	407.9	243.3	266.96	186.91	278.14	181.46		593.63
	MINIMUM	-247.85	-405.08	-167.76	-295.94	-381.97	-499.4	-386.29	-496.63	-160.37	-357.82	-230.91		-499.4
8ufth-sy.tot	MAXIMUM	458.11	382.28	213.29	510.08	273.5	630.28	343.1	175.12	435.62	229.25			630.28
	MINIMUM	-353.89	-486.59	-380.06	-790.3	-252.67	-246.78	-594.23	-275.6	-603.17	-195.5			-790.3

CEC JOB NO. 1101-000
BY DH DATE 3/16/01
CHECK DWM DATE 3/16/01
CALC. NO. GL(PDF)-2 REV. NO. 3
SHEET NO. 135

5.2 DYNAMIC ANALYSIS USING SASSI MODEL

This section documents SASSI dynamic analyses of the pad. The analyses were performed to check the CECSAP analyses. The following three analyses were performed:

- Lower Bound Soil Properties
- Best Estimate Soil Properties
- Upper Bound Soil Properties

For each analysis, the applied load consisted of a single vertical force applied to quadrant 2 of cask 1. Results in the form of vertical displacements and bending moments in the pad are compared to CECSAP results.

5.2.1 SASSI Model

The strain-compatible soil properties for the SASSI model were provided by Reference 5. They are listed on the following pages.

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CHECK amm DATE 4/3/01
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SHEET NO. 138

Table 1
16-Feb-01
Dynamic Soil Properties for SASSI Model
High Range Properties

Shake Layers	Depth Top (ft)	Depth Bottom (ft)	Density (pcf)	Wave Velocity Vs (fps)	Wave Velocity Vp (fps)	Damping Ratio Shear (%)	Damping Ratio Compression (%)	Poisson's Ratio
1-2	0	5	100	2120	3380	0.91	0.91	0.176
3-4	5	10	80	557	1385	3.48	3.48	0.403
5	10	12	80	807	1543	2.69	2.69	0.312
6-7	12	18	100	983	1803	1.82	1.82	0.289
8-9	18	26	94	973	1764	2.31	2.31	0.281
10-12	26	35	115	1053	2042	5.07	5.07	0.319
13-15	35	50	115	1488	2949	4.04	4.04	0.329
16-23	50	90	120	2481	4808	1.21	1.21	0.318
24-26	90	125	135	4101	7104	4.28	4.28	0.250
27-35	125	300	145	4101	7104	4.28	4.28	0.250
36-39	300	500	145	5657	9798	3.10	3.10	0.250
40-41	500	700	145	6398	11155	2.53	2.53	0.255
	700		170	6398	11155	2.16	1.00	0.255

Best Estimate Properties

Shake Layers	Depth Top (ft)	Depth Bottom (ft)	Density (pcf)	Wave Velocity Vs (fps)	Wave Velocity Vp (fps)	Damping Ratio Shear (%)	Damping Ratio Compression (%)	Poisson's Ratio
1-2	0	5	100	1497	2390	0.94	0.94	0.177
3-4	5	10	80	415	1131	4.78	4.78	0.422
5	10	12	80	622	1260	3.60	3.60	0.339
6-7	12	18	100	779	1472	2.29	2.29	0.306
8-9	18	26	94	760	1440	3.01	3.01	0.307
10-12	26	35	115	818	1667	6.21	6.21	0.341
13-15	35	50	115	956	2085	6.13	6.13	0.367
16-23	50	90	120	1716	3400	1.74	1.74	0.329
24-26	90	125	135	2900	5023	4.32	4.32	0.250
27-35	125	300	145	2900	5023	4.32	4.32	0.250
36-39	300	500	145	3450	5975.5	3.67	3.67	0.250
40-41	500	700	145	3950	6841.5	3.33	3.33	0.250
	700		170	6398	11155	1.76	1.00	0.255

CEC JOB NO. 1101-000
BY DH DATE 3/1/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 139

Low Range Properties

Shake Layers	Depth Top (ft)	Depth Bottom (ft)	Density (pcf)	Wave Velocity Vs (fps)	Wave Velocity Vp (fps)	Damping Ratio Shear (%)	Damping Ratio Compression (%)	Poisson's Ratio
1-2	0	5	100	1053	1690	1.08	1.08	0.183
3-4	5	10	80	298	923	6.57	6.57	0.442
5	10	12	80	622	1260	3.60	3.60	0.339
6-7	12	18	100	610	1202	2.97	2.97	0.327
8-9	18	26	94	593	1176	3.73	3.73	0.330
10-12	26	35	115	614	1361	8.09	8.09	0.372
13-15	35	50	115	565	1474	9.82	9.82	0.414
16-23	50	90	120	1191	2404	2.18	2.18	0.337
24-26	90	125	135	2051	3552	3.97	3.97	0.250
27-35	125	300	145	2051	3552	3.97	3.97	0.250
36-39	300	500	145	2051	3552	3.97	3.97	0.250
40-41	500	700	145	2051	3552	3.97	3.97	0.250
	700		170	6398	11155	2.16	1.00	0.255

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED aum	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 140

Low Range Properties

Shake Layers (no)	Depth Top (ft)	Depth Bottom (ft)	Soil Density (pcf)	Wave Vs (fps)	Velocity Vp (fps)	Damping Shear (%)	Ratio Compression (%)	Layer Thick (ft)	Cut-off Freq (cps)
1-2	0	5	100	1053	1690	1.08	1.08	5	42.1
3-4	5	10	80	298	923	6.57	6.57	5	11.9
5	10	12	80	622	1260	3.60	3.60	2	62.2
6-7	12	18	100	610	1202	2.97	2.97	6	20.3
8-9	18	26	94	593	1176	3.73	3.73	8	14.8
10-12	26	35	115	614	1361	8.09	8.09	9	13.6
13-15	35	50	115	565	1474	9.82	9.82	15	7.5
16-23	50	90	120	1191	2404	2.18	2.18	40	6.0
24-26	90	125	135	2051	3552	3.97	3.97	35.01	11.7
27-35	125	300	145	2051	3552	3.97	3.97	174.96	2.3
36-39	300	500	145	2051	3552	3.97	3.97	200	2.1
40-41	500	700	145	2051	3552	3.97	3.97	200	2.1
HS	700	900	170	6398	11155	2.16	1.00	200.03	6.4
							total:	699.97	

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
PROJECT	Private Fuel Storage Facility			CHECKED aum	DATE 4/3/01
SUBJECT	Storage Pad Analysis and Design				JOB NO. 1101-000
					SHEET NO. 141

Best Estimate Properties

Shake Layers (no)	Depth Top (ft)	Depth Bottom (ft)	Soil Density (pcf)	Wave Vs (fps)	Velocity Vp (fps)	Damping Shear (%)	Ratio Compression (%)	Layer Thick (ft)	Cut-off Freq (cps)
1-2	0	5	100	1497	2390	0.94	0.94	5	59.9
3-4	5	10	80	415	1131	4.78	4.78	5	16.6
5	10	12	80	622	1260	3.60	3.60	2	62.2
6-7	12	18	100	779	1472	2.29	2.29	6	26.0
8-9	18	26	94	760	1440	3.01	3.01	8	19.0
10-12	26	35	115	818	1667	6.21	6.21	9	18.2
13-15	35	50	115	956	2085	6.13	6.13	15	12.7
16-23	50	90	120	1716	3400	1.74	1.74	40	8.6
24-26	90	125	135	2900	5023	4.32	4.32	35.01	16.6
27-35	125	300	145	2900	5023	4.32	4.32	174.96	3.3
36-39	300	500	145	3450	5975.5	3.67	3.67	200	3.5
40-41	500	700	145	3950	6841.5	3.33	3.33	200	4.0
HS	700	900	170	6398	11155	1.76	1.00	200.03	6.4
							total:	699.97	

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED aum	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 142

Upper Range Properties

Shake Layers (no)	Depth Top (ft)	Depth Bottom (ft)	Soil Density (pcf)	Wave Vs (fps)	Velocity Vp (fps)	Damping Shear (%)	Ratio Compression (%)	Layer Thick (ft)	Cut-off Freq (cps)
1-2	0	5	100	2120	3380	0.91	0.91	5	84.8
3-4	5	10	80	557	1385	3.48	3.48	5	22.3
5	10	12	80	807	1543	2.69	2.69	2	80.7
6-7	12	18	100	983	1803	1.82	1.82	6	32.8
8-9	18	26	94	973	1764	2.31	2.31	8	24.3
10-12	26	35	115	1053	2042	5.07	5.07	9	23.4
13-15	35	50	115	1488	2949	4.04	4.04	15	19.8
16-23	50	90	120	2481	4808	1.21	1.21	40	12.4
24-26	90	125	135	4101	7104	4.28	4.28	35.01	23.4
27-35	125	300	145	4101	7104	4.28	4.28	174.96	4.7
36-39	300	500	145	5657	9798	3.10	3.10	200	5.7
40-41	500	700	145	6398	11155	2.53	2.53	200	6.4
HS	700	900	170	6398	11155	2.16	1.00	200.03	6.4
							total:	699.97	

CALCULATION SHEET

CEC

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED Aun	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 143

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Lower Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
1	5	0.1	1053	1690	1.08	1.08	0	0.1830	42.1
2	1.66	0.08	298	923	6.57	6.57	-5	0.4420	35.8
3	1.67	0.08	298	923	6.57	6.57	-6.66	0.4420	35.6
4	1.67	0.08	298	923	6.57	6.57	-8.33	0.4420	35.6
5	2	0.08	622	1260	3.60	3.60	-10	0.3386	62.2
6	3	0.1	610	1202	2.97	2.97	-12	0.3268	40.6
7	3	0.1	610	1202	2.97	2.97	-15	0.3268	40.6
8	2.66	0.094	593	1176	3.73	3.73	-18	0.3296	44.6
9	2.67	0.094	593	1176	3.73	3.73	-20.66	0.3296	44.4
10	2.67	0.094	593	1176	3.73	3.73	-23.33	0.3296	44.4
11	3	0.115	614	1361	8.09	8.09	-26	0.3724	40.9
12	3	0.115	614	1361	8.09	8.09	-29	0.3724	40.9
13	3	0.115	614	1361	8.09	8.09	-32	0.3724	40.9
14	3	0.115	565	1474	9.82	9.82	-35	0.4140	37.6
15	3	0.115	565	1474	9.82	9.82	-38	0.4140	37.6
16	3	0.115	565	1474	9.82	9.82	-41	0.4140	37.6
17	3	0.115	565	1474	9.82	9.82	-44	0.4140	37.6
18	3	0.115	565	1474	9.82	9.82	-47	0.4140	37.6
19	5	0.12	1191	2404	2.18	2.18	-50	0.3372	47.7
20	5	0.12	1191	2404	2.18	2.18	-55	0.3372	47.7
21	5	0.12	1191	2404	2.18	2.18	-60	0.3372	47.7
22	5	0.12	1191	2404	2.18	2.18	-65	0.3372	47.7
23	5	0.12	1191	2404	2.18	2.18	-70	0.3372	47.7
24	5	0.12	1191	2404	2.18	2.18	-75	0.3372	47.7
25	5	0.12	1191	2404	2.18	2.18	-80	0.3372	47.7
26	5	0.12	1191	2404	2.18	2.18	-85	0.3372	47.7
27	8.75	0.135	2051	3552	3.97	3.97	-90	0.2499	46.9
28	8.75	0.135	2051	3552	3.97	3.97	-98.75	0.2499	46.9
29	8.75	0.135	2051	3552	3.97	3.97	-107.5	0.2499	46.9
30	8.75	0.135	2051	3552	3.97	3.97	-116.25	0.2499	46.9
31	10.9375	0.145	2051	3552	3.97	3.97	-125	0.2499	37.5
32	10.9375	0.145	2051	3552	3.97	3.97	-135.9375	0.2499	37.5
33	10.9375	0.145	2051	3552	3.97	3.97	-146.875	0.2499	37.5
34	10.9375	0.145	2051	3552	3.97	3.97	-157.8125	0.2499	37.5
35	10.9375	0.145	2051	3552	3.97	3.97	-168.75	0.2499	37.5
36	10.9375	0.145	2051	3552	3.97	3.97	-179.6875	0.2499	37.5

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED AMM	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 144

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Lower Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
37	10.9375	0.145	2051	3552	3.97	3.97	-190.625	0.2499	37.5
38	10.9375	0.145	2051	3552	3.97	3.97	-201.5625	0.2499	37.5
39	10.9375	0.145	2051	3552	3.97	3.97	-212.5	0.2499	37.5
40	10.9375	0.145	2051	3552	3.97	3.97	-223.4375	0.2499	37.5
41	10.9375	0.145	2051	3552	3.97	3.97	-234.375	0.2499	37.5
42	10.9375	0.145	2051	3552	3.97	3.97	-245.3125	0.2499	37.5
43	10.9375	0.145	2051	3552	3.97	3.97	-256.25	0.2499	37.5
44	10.9375	0.145	2051	3552	3.97	3.97	-267.1875	0.2499	37.5
45	10.9375	0.145	2051	3552	3.97	3.97	-278.125	0.2499	37.5
46	10.9375	0.145	2051	3552	3.97	3.97	-289.0625	0.2499	37.5
47	11.111	0.145	2051	3552	3.97	3.97	-300	0.2499	36.9
48	11.111	0.145	2051	3552	3.97	3.97	-311.111	0.2499	36.9
49	11.111	0.145	2051	3552	3.97	3.97	-322.222	0.2499	36.9
50	11.111	0.145	2051	3552	3.97	3.97	-333.333	0.2499	36.9
51	11.111	0.145	2051	3552	3.97	3.97	-344.444	0.2499	36.9
52	11.111	0.145	2051	3552	3.97	3.97	-355.555	0.2499	36.9
53	11.111	0.145	2051	3552	3.97	3.97	-366.666	0.2499	36.9
54	11.111	0.145	2051	3552	3.97	3.97	-377.777	0.2499	36.9
55	11.111	0.145	2051	3552	3.97	3.97	-388.888	0.2499	36.9
56	11.111	0.145	2051	3552	3.97	3.97	-399.999	0.2499	36.9
57	11.111	0.145	2051	3552	3.97	3.97	-411.11	0.2499	36.9
58	11.111	0.145	2051	3552	3.97	3.97	-422.221	0.2499	36.9
59	11.111	0.145	2051	3552	3.97	3.97	-433.332	0.2499	36.9
60	11.111	0.145	2051	3552	3.97	3.97	-444.443	0.2499	36.9
61	11.111	0.145	2051	3552	3.97	3.97	-455.554	0.2499	36.9
62	11.111	0.145	2051	3552	3.97	3.97	-466.665	0.2499	36.9
63	11.112	0.145	2051	3552	3.97	3.97	-477.776	0.2499	36.9
64	11.112	0.145	2051	3552	3.97	3.97	-488.888	0.2499	36.9
65	11.111	0.145	2051	3552	3.97	3.97	-500	0.2499	36.9
66	11.111	0.145	2051	3552	3.97	3.97	-511.111	0.2499	36.9
67	11.111	0.145	2051	3552	3.97	3.97	-522.222	0.2499	36.9
68	11.111	0.145	2051	3552	3.97	3.97	-533.333	0.2499	36.9
69	11.111	0.145	2051	3552	3.97	3.97	-544.444	0.2499	36.9
70	11.111	0.145	2051	3552	3.97	3.97	-555.555	0.2499	36.9
71	11.111	0.145	2051	3552	3.97	3.97	-566.666	0.2499	36.9
72	11.111	0.145	2051	3552	3.97	3.97	-577.777	0.2499	36.9
73	11.111	0.145	2051	3552	3.97	3.97	-588.888	0.2499	36.9
74	11.111	0.145	2051	3552	3.97	3.97	-599.999	0.2499	36.9
75	11.111	0.145	2051	3552	3.97	3.97	-611.11	0.2499	36.9

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
PROJECT	Private Fuel Storage Facility			CHECKED aum	DATE 4/3/01
SUBJECT	Storage Pad Analysis and Design				JOB NO. 1101-000
					SHEET NO. 145

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Lower Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
76	11.111	0.145	2051	3552	3.97	3.97	-622.221	0.2499	36.9
77	11.111	0.145	2051	3552	3.97	3.97	-633.332	0.2499	36.9
78	11.111	0.145	2051	3552	3.97	3.97	-644.443	0.2499	36.9
79	11.111	0.145	2051	3552	3.97	3.97	-655.554	0.2499	36.9
80	11.111	0.145	2051	3552	3.97	3.97	-666.665	0.2499	36.9
81	11.112	0.145	2051	3552	3.97	3.97	-677.776	0.2499	36.9
82	11.112	0.145	2051	3552	3.97	3.97	-688.888	0.2499	36.9
HS		0.17	6398	11155	2.16	1.00	-700	0.2549	
Total:	700							Minimum:	35.6

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/7/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 146

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Best Estimate Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
1	5	0.1	1497	2390	0.0094	0.0094	0	0.1772	59.9
2	1.66	0.08	415	1131	0.0478	0.0478	-5	0.4223	50.0
3	1.67	0.08	415	1131	0.0478	0.0478	-6.66	0.4223	49.7
4	1.67	0.08	415	1131	0.0478	0.0478	-8.33	0.4223	49.7
5	2	0.08	622	1260	0.0360	0.0360	-10	0.3386	62.2
6	3	0.1	779	1472	0.0229	0.0229	-12	0.3056	51.9
7	3	0.1	779	1472	0.0229	0.0229	-15	0.3056	51.9
8	2.66	0.094	760	1440	0.0301	0.0301	-18	0.3068	57.2
9	2.67	0.094	760	1440	0.0301	0.0301	-20.66	0.3068	56.9
10	2.67	0.094	760	1440	0.0301	0.0301	-23.33	0.3068	56.9
11	3	0.115	818	1667	0.0621	0.0621	-26	0.3413	54.6
12	3	0.115	818	1667	0.0621	0.0621	-29	0.3413	54.6
13	3	0.115	818	1667	0.0621	0.0621	-32	0.3413	54.6
14	3	0.115	956	2085	0.0613	0.0613	-35	0.3670	63.7
15	3	0.115	956	2085	0.0613	0.0613	-38	0.3670	63.7
16	3	0.115	956	2085	0.0613	0.0613	-41	0.3670	63.7
17	3	0.115	956	2085	0.0613	0.0613	-44	0.3670	63.7
18	3	0.115	956	2085	0.0613	0.0613	-47	0.3670	63.7
19	5	0.12	1716	3400	0.0174	0.0174	-50	0.3291	68.6
20	5	0.12	1716	3400	0.0174	0.0174	-55	0.3291	68.6
21	5	0.12	1716	3400	0.0174	0.0174	-60	0.3291	68.6
22	5	0.12	1716	3400	0.0174	0.0174	-65	0.3291	68.6
23	5	0.12	1716	3400	0.0174	0.0174	-70	0.3291	68.6
24	5	0.12	1716	3400	0.0174	0.0174	-75	0.3291	68.6
25	5	0.12	1716	3400	0.0174	0.0174	-80	0.3291	68.6
26	5	0.12	1716	3400	0.0174	0.0174	-85	0.3291	68.6
27	8.75	0.135	2900	5023	0.0432	0.0432	-90	0.2500	66.3
28	8.75	0.135	2900	5023	0.0432	0.0432	-98.75	0.2500	66.3
29	8.75	0.135	2900	5023	0.0432	0.0432	-107.5	0.2500	66.3
30	8.75	0.135	2900	5023	0.0432	0.0432	-116.25	0.2500	66.3
31	10.9375	0.145	2900	5023	0.0432	0.0432	-125	0.2500	53.0
32	10.9375	0.145	2900	5023	0.0432	0.0432	-135.9375	0.2500	53.0
33	10.9375	0.145	2900	5023	0.0432	0.0432	-146.875	0.2500	53.0
34	10.9375	0.145	2900	5023	0.0432	0.0432	-157.8125	0.2500	53.0
35	10.9375	0.145	2900	5023	0.0432	0.0432	-168.75	0.2500	53.0
36	10.9375	0.145	2900	5023	0.0432	0.0432	-179.6875	0.2500	53.0

CALCULATION SHEET

CEC

ORIGINATOR	DH	DATE 4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3	
			CHECKED Quinn	DATE 4/3/01	
PROJECT	Private Fuel Storage Facility			JOB NO. 1101-000	
SUBJECT	Storage Pad Analysis and Design			SHEET NO. 147	

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Best Estimate Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
37	10.9375	0.145	2900	5023	0.0432	0.0432	-190.625	0.2500	53.0
38	10.9375	0.145	2900	5023	0.0432	0.0432	-201.5625	0.2500	53.0
39	10.9375	0.145	2900	5023	0.0432	0.0432	-212.5	0.2500	53.0
40	10.9375	0.145	2900	5023	0.0432	0.0432	-223.4375	0.2500	53.0
41	10.9375	0.145	2900	5023	0.0432	0.0432	-234.375	0.2500	53.0
42	10.9375	0.145	2900	5023	0.0432	0.0432	-245.3125	0.2500	53.0
43	10.9375	0.145	2900	5023	0.0432	0.0432	-256.25	0.2500	53.0
44	10.9375	0.145	2900	5023	0.0432	0.0432	-267.1875	0.2500	53.0
45	10.9375	0.145	2900	5023	0.0432	0.0432	-278.125	0.2500	53.0
46	10.9375	0.145	2900	5023	0.0432	0.0432	-289.0625	0.2500	53.0
47	11.111	0.145	3450	5976	0.0367	0.0367	-300	0.2500	62.1
48	11.111	0.145	3450	5976	0.0367	0.0367	-311.111	0.2500	62.1
49	11.111	0.145	3450	5976	0.0367	0.0367	-322.222	0.2500	62.1
50	11.111	0.145	3450	5976	0.0367	0.0367	-333.333	0.2500	62.1
51	11.111	0.145	3450	5976	0.0367	0.0367	-344.444	0.2500	62.1
52	11.111	0.145	3450	5976	0.0367	0.0367	-355.555	0.2500	62.1
53	11.111	0.145	3450	5976	0.0367	0.0367	-366.666	0.2500	62.1
54	11.111	0.145	3450	5976	0.0367	0.0367	-377.777	0.2500	62.1
55	11.111	0.145	3450	5976	0.0367	0.0367	-388.888	0.2500	62.1
56	11.111	0.145	3450	5976	0.0367	0.0367	-399.999	0.2500	62.1
57	11.111	0.145	3450	5976	0.0367	0.0367	-411.11	0.2500	62.1
58	11.111	0.145	3450	5976	0.0367	0.0367	-422.221	0.2500	62.1
59	11.111	0.145	3450	5976	0.0367	0.0367	-433.332	0.2500	62.1
60	11.111	0.145	3450	5976	0.0367	0.0367	-444.443	0.2500	62.1
61	11.111	0.145	3450	5976	0.0367	0.0367	-455.554	0.2500	62.1
62	11.111	0.145	3450	5976	0.0367	0.0367	-466.665	0.2500	62.1
63	11.112	0.145	3450	5976	0.0367	0.0367	-477.776	0.2500	62.1
64	11.112	0.145	3450	5976	0.0367	0.0367	-488.888	0.2500	62.1
65	11.111	0.145	3950	6842	0.0333	0.0333	-500	0.2500	71.1
66	11.111	0.145	3950	6842	0.0333	0.0333	-511.111	0.2500	71.1
67	11.111	0.145	3950	6842	0.0333	0.0333	-522.222	0.2500	71.1
68	11.111	0.145	3950	6842	0.0333	0.0333	-533.333	0.2500	71.1
69	11.111	0.145	3950	6842	0.0333	0.0333	-544.444	0.2500	71.1
70	11.111	0.145	3950	6842	0.0333	0.0333	-555.555	0.2500	71.1
71	11.111	0.145	3950	6842	0.0333	0.0333	-566.666	0.2500	71.1
72	11.111	0.145	3950	6842	0.0333	0.0333	-577.777	0.2500	71.1
73	11.111	0.145	3950	6842	0.0333	0.0333	-588.888	0.2500	71.1
74	11.111	0.145	3950	6842	0.0333	0.0333	-599.999	0.2500	71.1
75	11.111	0.145	3950	6842	0.0333	0.0333	-611.11	0.2500	71.1

CALCULATION SHEET

ORIGINATOR	DH	DATE 4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3	
			CHECKED aum	DATE 4/3/01	
PROJECT	Private Fuel Storage Facility			JOB NO. 1101-000	
SUBJECT	Storage Pad Analysis and Design			SHEET NO. 148	

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Best Estimate Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
76	11.111	0.145	3950	6842	0.0333	0.0333	-622.221	0.2500	71.1
77	11.111	0.145	3950	6842	0.0333	0.0333	-633.332	0.2500	71.1
78	11.111	0.145	3950	6842	0.0333	0.0333	-644.443	0.2500	71.1
79	11.111	0.145	3950	6842	0.0333	0.0333	-655.554	0.2500	71.1
80	11.111	0.145	3950	6842	0.0333	0.0333	-666.665	0.2500	71.1
81	11.112	0.145	3950	6842	0.0333	0.0333	-677.776	0.2500	71.1
82	11.112	0.145	3950	6842	0.0333	0.0333	-688.888	0.2500	71.1
HS		0.17	6398	11155	0.0176	0.01	-700	0.2549	
Total:	700							Minimum:	49.7

CALCULATION SHEET

ORIGINATOR	DH	DATE 4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3	
			CHECKED aum	DATE 4/3/01	
PROJECT	Private Fuel Storage Facility			JOB NO. 1101-000	
SUBJECT	Storage Pad Analysis and Design			SHEET NO. 149	

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Upper Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
1	5	0.1	2120	3380	0.0091	0.0091	0	0.1757	84.8
2	1.66	0.08	557	1385	0.0348	0.0348	-5	0.4033	67.2
3	1.67	0.08	557	1385	0.0348	0.0348	-6.66	0.4033	66.8
4	1.67	0.08	557	1385	0.0348	0.0348	-8.33	0.4033	66.8
5	2	0.08	807	1543	0.0269	0.0269	-10	0.3116	80.7
6	3	0.1	983	1803	0.0182	0.0182	-12	0.2886	65.5
7	3	0.1	983	1803	0.0182	0.0182	-15	0.2886	65.5
8	2.66	0.094	973	1764	0.0231	0.0231	-18	0.2814	73.2
9	2.67	0.094	973	1764	0.0231	0.0231	-20.66	0.2814	72.9
10	2.67	0.094	973	1764	0.0231	0.0231	-23.33	0.2814	72.9
11	3	0.115	1053	2042	0.0507	0.0507	-26	0.3191	70.2
12	3	0.115	1053	2042	0.0507	0.0507	-29	0.3191	70.2
13	3	0.115	1053	2042	0.0507	0.0507	-32	0.3191	70.2
14	3	0.115	1488	2949	0.0404	0.0404	-35	0.3292	99.2
15	3	0.115	1488	2949	0.0404	0.0404	-38	0.3292	99.2
16	3	0.115	1488	2949	0.0404	0.0404	-41	0.3292	99.2
17	3	0.115	1488	2949	0.0404	0.0404	-44	0.3292	99.2
18	3	0.115	1488	2949	0.0404	0.0404	-47	0.3292	99.2
19	5	0.12	2481	4808	0.0121	0.0121	-50	0.3185	99.3
20	5	0.12	2481	4808	0.0121	0.0121	-55	0.3185	99.3
21	5	0.12	2481	4808	0.0121	0.0121	-60	0.3185	99.3
22	5	0.12	2481	4808	0.0121	0.0121	-65	0.3185	99.3
23	5	0.12	2481	4808	0.0121	0.0121	-70	0.3185	99.3
24	5	0.12	2481	4808	0.0121	0.0121	-75	0.3185	99.3
25	5	0.12	2481	4808	0.0121	0.0121	-80	0.3185	99.3
26	5	0.12	2481	4808	0.0121	0.0121	-85	0.3185	99.3
27	8.75	0.135	4101	7104	0.0428	0.0428	-90	0.2501	93.7
28	8.75	0.135	4101	7104	0.0428	0.0428	-98.75	0.2501	93.7
29	8.75	0.135	4101	7104	0.0428	0.0428	-107.5	0.2501	93.7
30	8.75	0.135	4101	7104	0.0428	0.0428	-116.25	0.2501	93.7
31	10.9375	0.145	4101	7104	0.0428	0.0428	-125	0.2501	75.0
32	10.9375	0.145	4101	7104	0.0428	0.0428	-135.9375	0.2501	75.0
33	10.9375	0.145	4101	7104	0.0428	0.0428	-146.875	0.2501	75.0
34	10.9375	0.145	4101	7104	0.0428	0.0428	-157.8125	0.2501	75.0
35	10.9375	0.145	4101	7104	0.0428	0.0428	-168.75	0.2501	75.0
36	10.9375	0.145	4101	7104	0.0428	0.0428	-179.6875	0.2501	75.0

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED aum	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 150

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Upper Bound Properties

Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
37	10.9375	0.145	4101	7104	0.0428	0.0428	-190.625	0.2501	75.0
38	10.9375	0.145	4101	7104	0.0428	0.0428	-201.5625	0.2501	75.0
39	10.9375	0.145	4101	7104	0.0428	0.0428	-212.5	0.2501	75.0
40	10.9375	0.145	4101	7104	0.0428	0.0428	-223.4375	0.2501	75.0
41	10.9375	0.145	4101	7104	0.0428	0.0428	-234.375	0.2501	75.0
42	10.9375	0.145	4101	7104	0.0428	0.0428	-245.3125	0.2501	75.0
43	10.9375	0.145	4101	7104	0.0428	0.0428	-256.25	0.2501	75.0
44	10.9375	0.145	4101	7104	0.0428	0.0428	-267.1875	0.2501	75.0
45	10.9375	0.145	4101	7104	0.0428	0.0428	-278.125	0.2501	75.0
46	10.9375	0.145	4101	7104	0.0428	0.0428	-289.0625	0.2501	75.0
47	11.111	0.145	5657	9798	0.0310	0.0310	-300	0.2500	101.8
48	11.111	0.145	5657	9798	0.0310	0.0310	-311.111	0.2500	101.8
49	11.111	0.145	5657	9798	0.0310	0.0310	-322.222	0.2500	101.8
50	11.111	0.145	5657	9798	0.0310	0.0310	-333.333	0.2500	101.8
51	11.111	0.145	5657	9798	0.0310	0.0310	-344.444	0.2500	101.8
52	11.111	0.145	5657	9798	0.0310	0.0310	-355.555	0.2500	101.8
53	11.111	0.145	5657	9798	0.0310	0.0310	-366.666	0.2500	101.8
54	11.111	0.145	5657	9798	0.0310	0.0310	-377.777	0.2500	101.8
55	11.111	0.145	5657	9798	0.0310	0.0310	-388.888	0.2500	101.8
56	11.111	0.145	5657	9798	0.0310	0.0310	-399.999	0.2500	101.8
57	11.111	0.145	5657	9798	0.0310	0.0310	-411.11	0.2500	101.8
58	11.111	0.145	5657	9798	0.0310	0.0310	-422.221	0.2500	101.8
59	11.111	0.145	5657	9798	0.0310	0.0310	-433.332	0.2500	101.8
60	11.111	0.145	5657	9798	0.0310	0.0310	-444.443	0.2500	101.8
61	11.111	0.145	5657	9798	0.0310	0.0310	-455.554	0.2500	101.8
62	11.111	0.145	5657	9798	0.0310	0.0310	-466.665	0.2500	101.8
63	11.112	0.145	5657	9798	0.0310	0.0310	-477.776	0.2500	101.8
64	11.112	0.145	5657	9798	0.0310	0.0310	-488.888	0.2500	101.8
65	11.111	0.145	6398	11155	0.0253	0.0253	-500	0.2549	115.2
66	11.111	0.145	6398	11155	0.0253	0.0253	-511.111	0.2549	115.2
67	11.111	0.145	6398	11155	0.0253	0.0253	-522.222	0.2549	115.2
68	11.111	0.145	6398	11155	0.0253	0.0253	-533.333	0.2549	115.2
69	11.111	0.145	6398	11155	0.0253	0.0253	-544.444	0.2549	115.2
70	11.111	0.145	6398	11155	0.0253	0.0253	-555.555	0.2549	115.2
71	11.111	0.145	6398	11155	0.0253	0.0253	-566.666	0.2549	115.2
72	11.111	0.145	6398	11155	0.0253	0.0253	-577.777	0.2549	115.2
73	11.111	0.145	6398	11155	0.0253	0.0253	-588.888	0.2549	115.2
74	11.111	0.145	6398	11155	0.0253	0.0253	-599.999	0.2549	115.2
75	11.111	0.145	6398	11155	0.0253	0.0253	-611.11	0.2549	115.2

CALCULATION SHEET

ORIGINATOR	DH	DATE 4/3/01	CALC. NO. G(PO17)-2	REV. NO. 3	
PROJECT	Private Fuel Storage Facility		CHECKED aum	DATE 4/3/01	
SUBJECT	Storage Pad Analysis and Design			JOB NO. 1101-000	
				SHEET NO. 151	

Dynamic Soil Properties for SASSI Model (from Ref. 5)
Upper Bound Properties

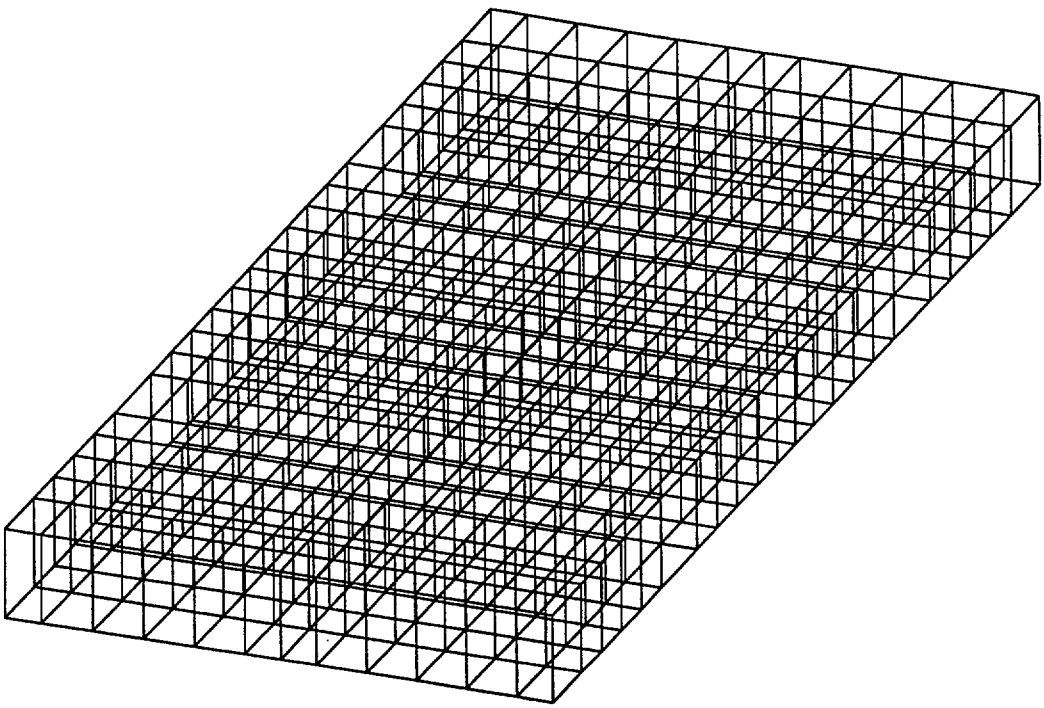
Layer	Thick (ft)	Density (kcf)	Vs (ft/sec)	Vp (ft/sec)	Damping Vs	Damping Vp	Top of Layer Elevation (ft)	Poisson's ratio	Approx. Cut-off Freq. (cps)
76	11.111	0.145	6398	11155	0.0253	0.0253	-622.221	0.2549	115.2
77	11.111	0.145	6398	11155	0.0253	0.0253	-633.332	0.2549	115.2
78	11.111	0.145	6398	11155	0.0253	0.0253	-644.443	0.2549	115.2
79	11.111	0.145	6398	11155	0.0253	0.0253	-655.554	0.2549	115.2
80	11.111	0.145	6398	11155	0.0253	0.0253	-666.665	0.2549	115.2
81	11.112	0.145	6398	11155	0.0253	0.0253	-677.776	0.2549	115.2
82	11.112	0.145	6398	11155	0.0253	0.0253	-688.888	0.2549	115.2
HS		0.17	6398	11155	0.0216	0.01	-700	0.2549	
Total:	700							Minimum:	65.5

CALCULATION SHEET

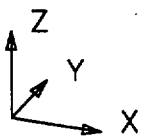
			CALC. NO. G(PO17)-2	REV. NO.	3
ORIGINATOR	DH	DATE 4/2/01	CHECKED amm	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	152

The following pages show the finite element mesh of the SASSI model.

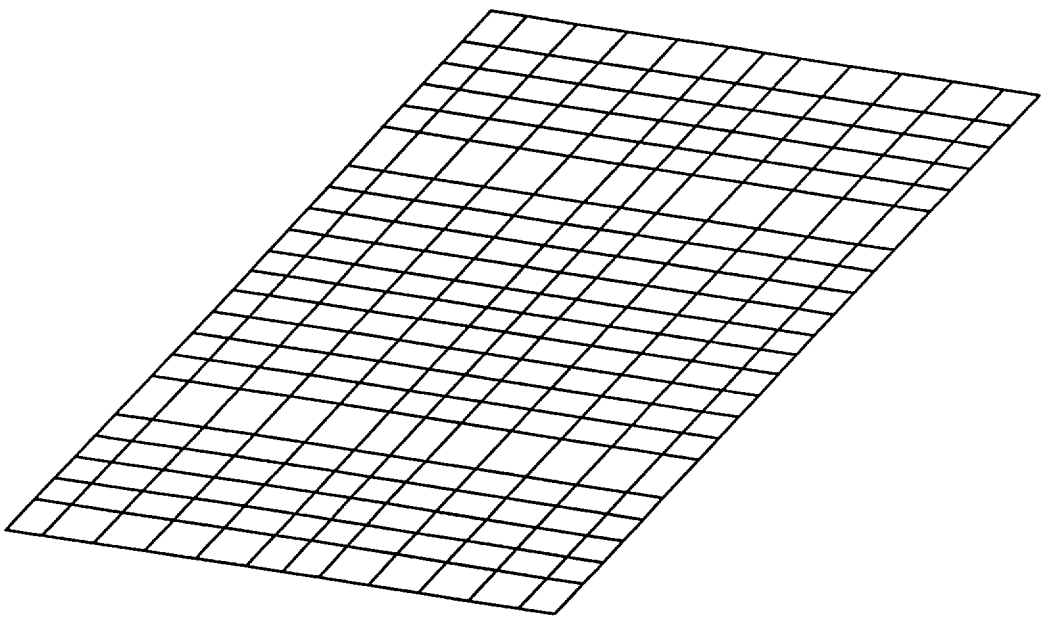
CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK awm DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 153



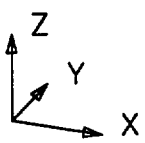
PFSF, REV. 3, Groups 1-3



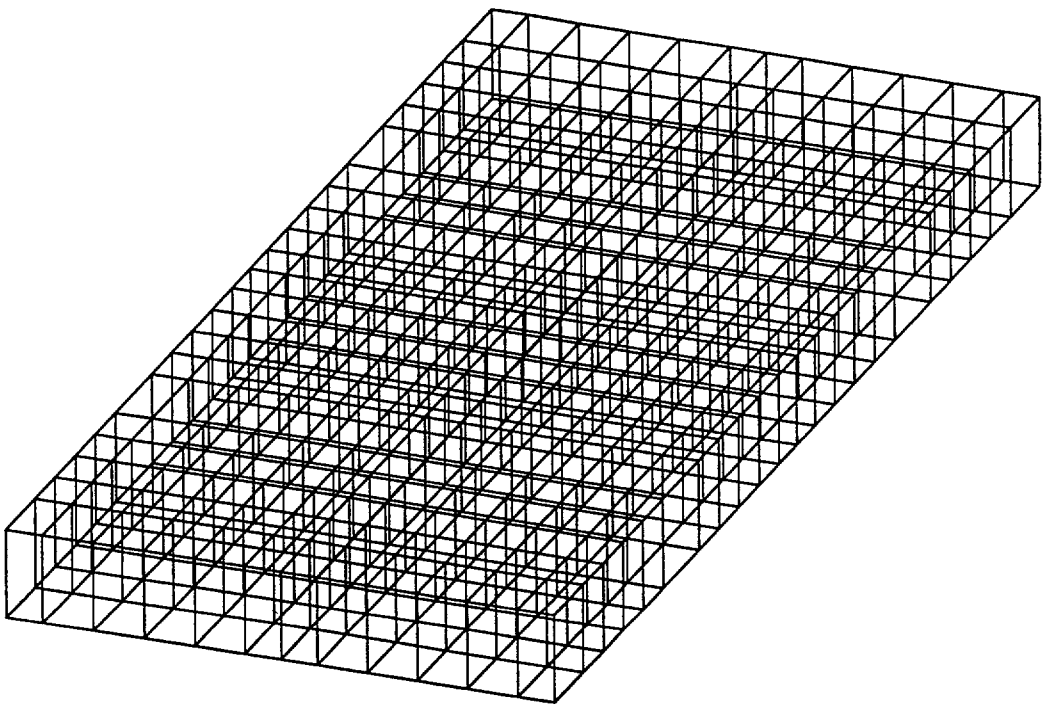
CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 154



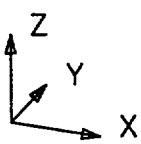
PFSF SASSI MODEL, GROUP 1 (PLATE ELEMENTS)



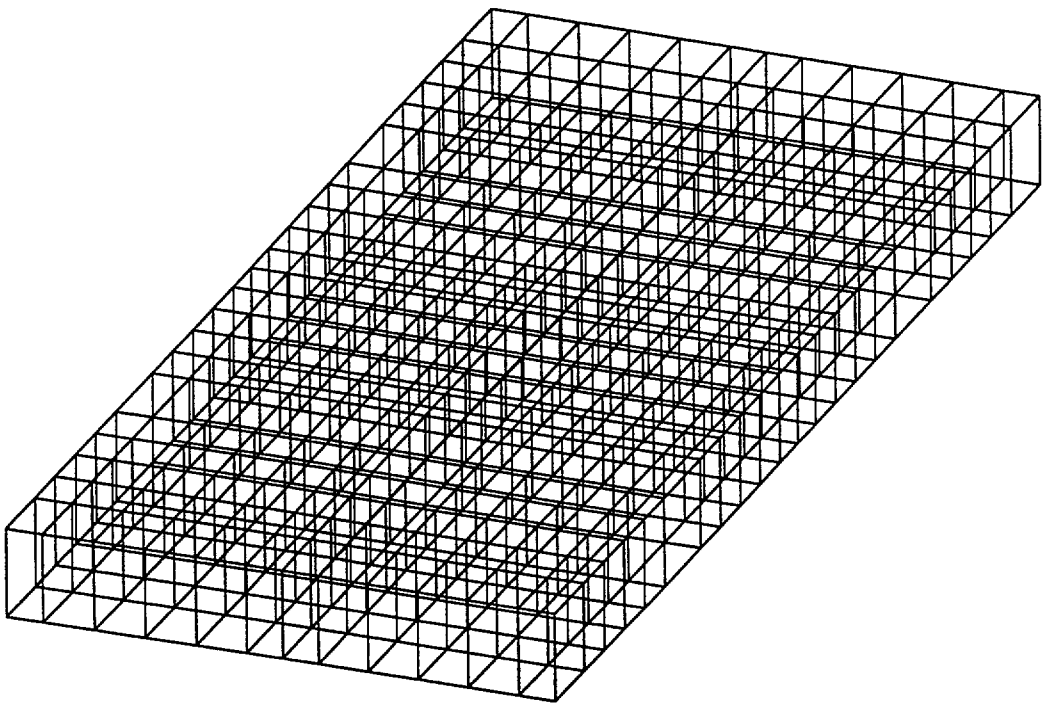
CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK aum DATE 4/3/01
CALC. NO. S(A17)-2 REV. NO. 3
SHEET NO. 155



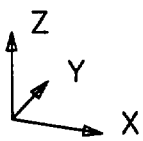
PFSF SASSI MODEL, GROUP 2 (EXCAVATED SOIL)

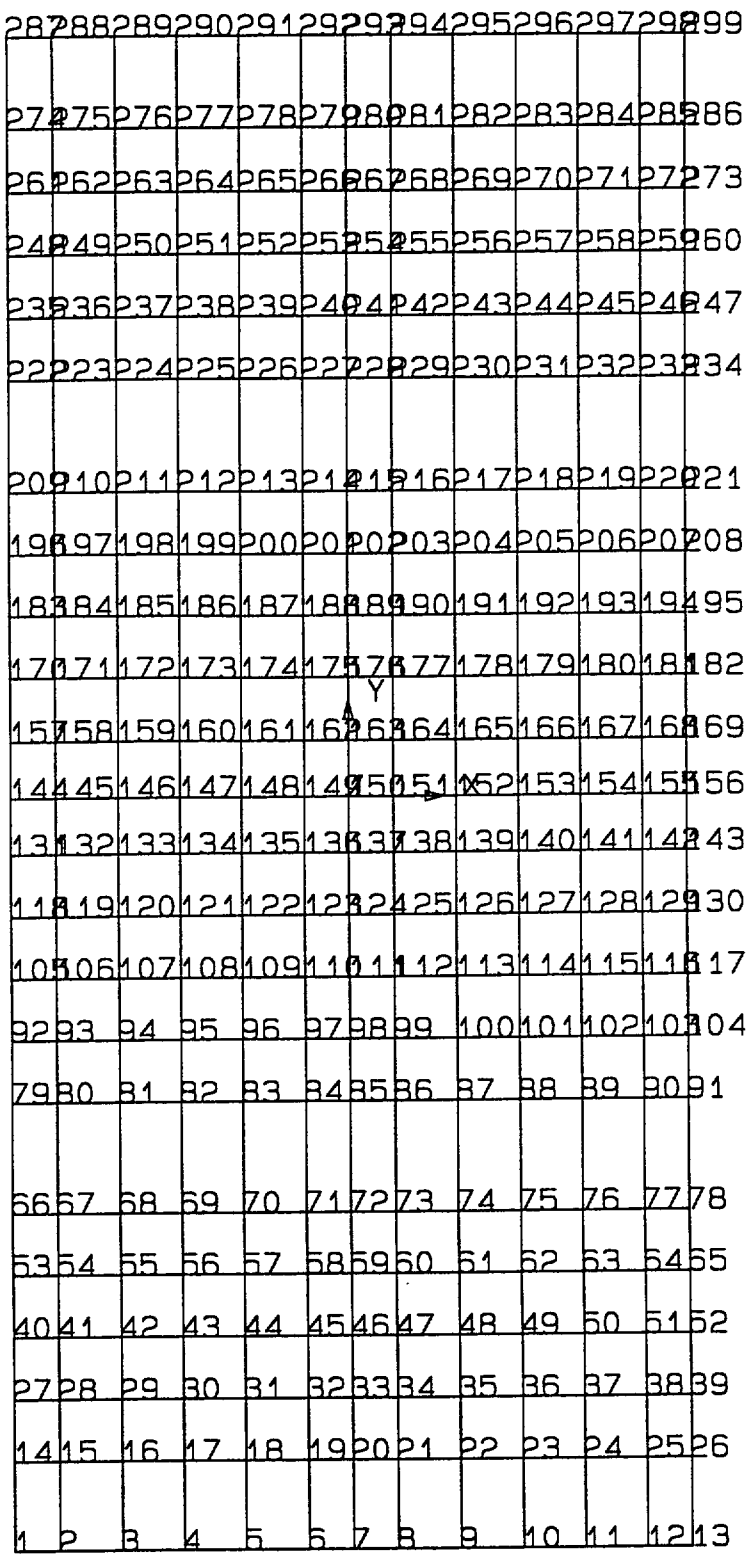


CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK Aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 156



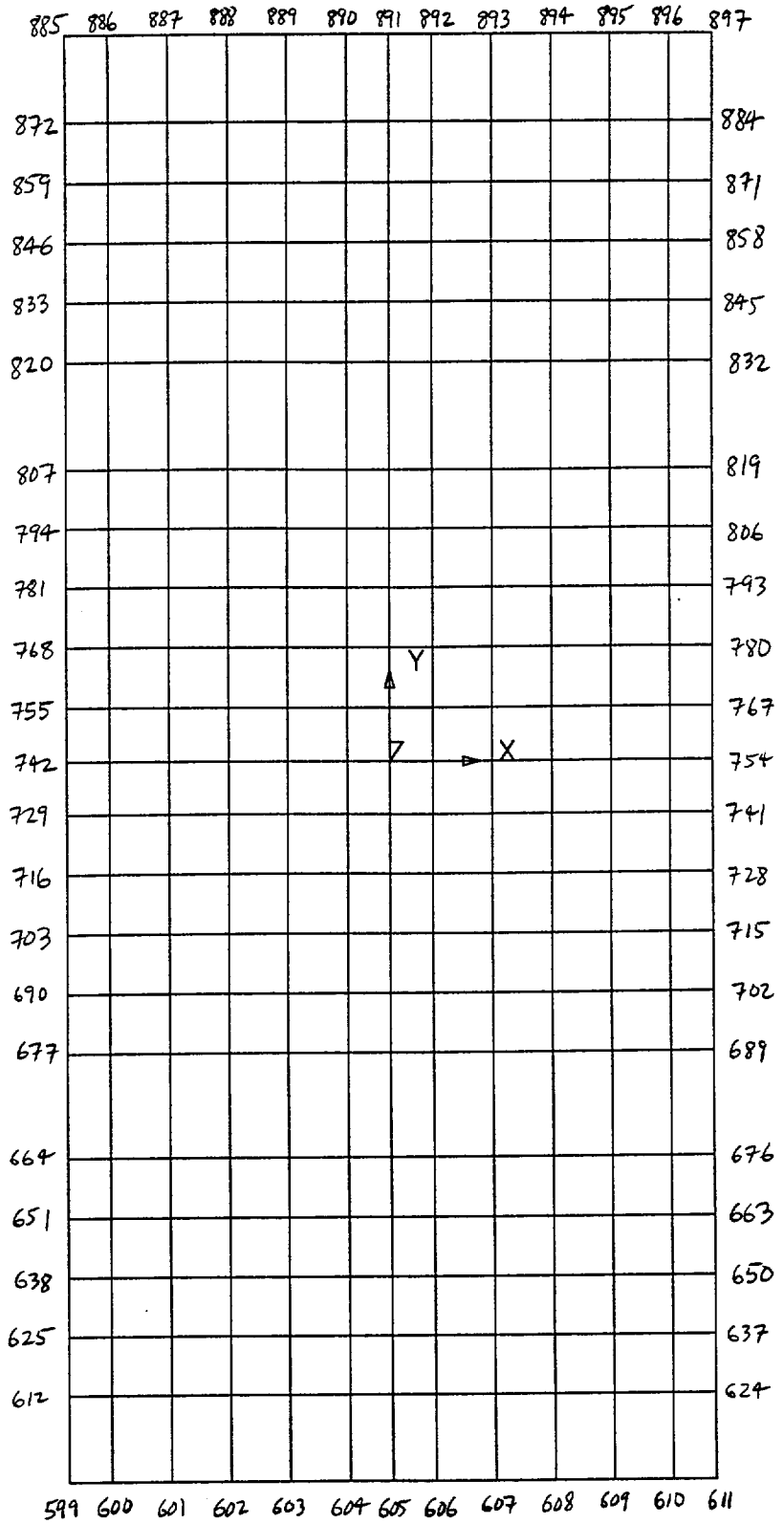
PFSF SASSI MODEL, GROUP 3 (SOIL ELEMENTS)





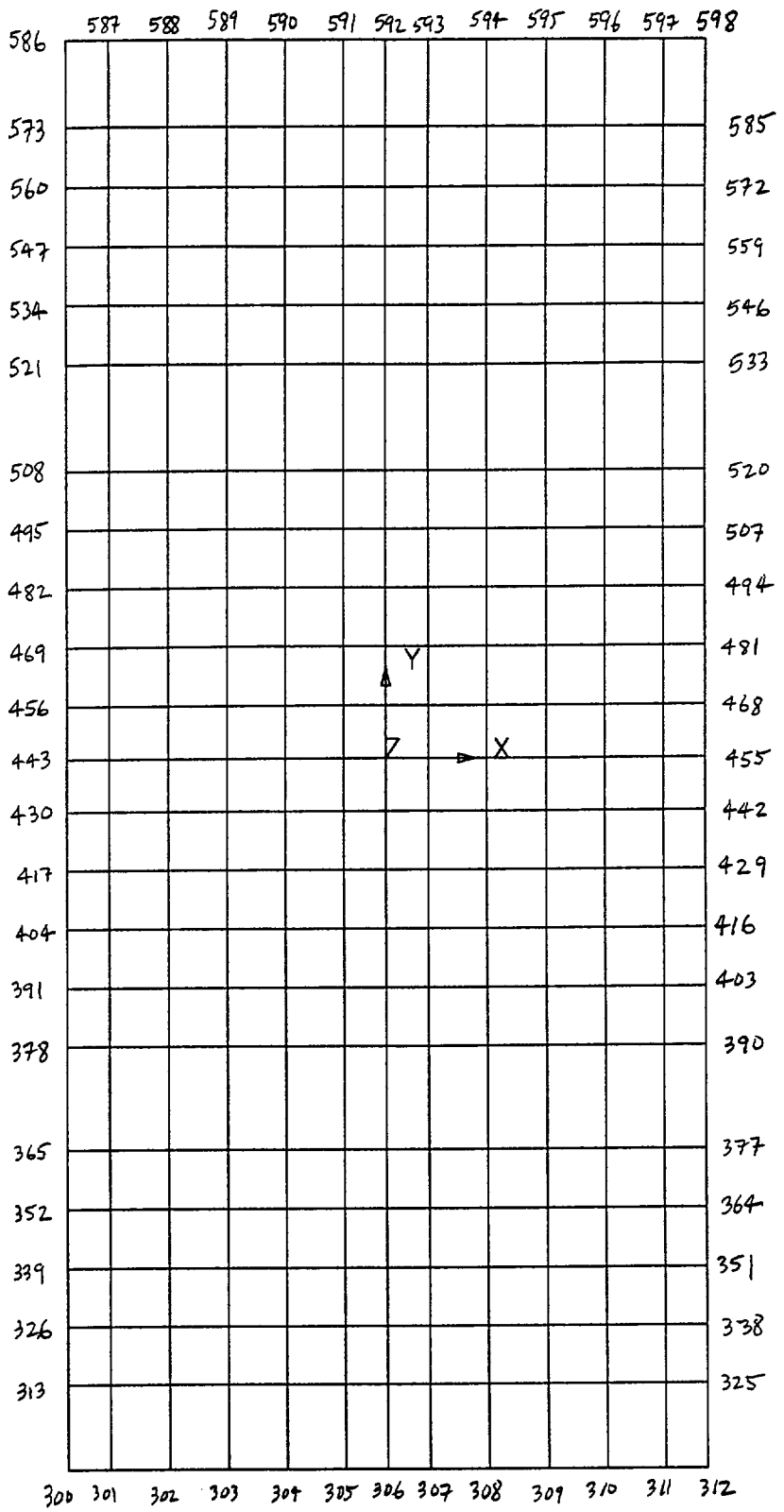
CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK DATE 4/3/01
CALC. NO. G1(2017)-2 REV. NO. 3
SHEET NO. 157

PFSF, REV. 3 SASSI MODEL PLATE ELEMENT NODES



CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK [illegible] DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 158

PFSF SASSI MODEL BRICK ELEMENT NODES (EL. 0.0')

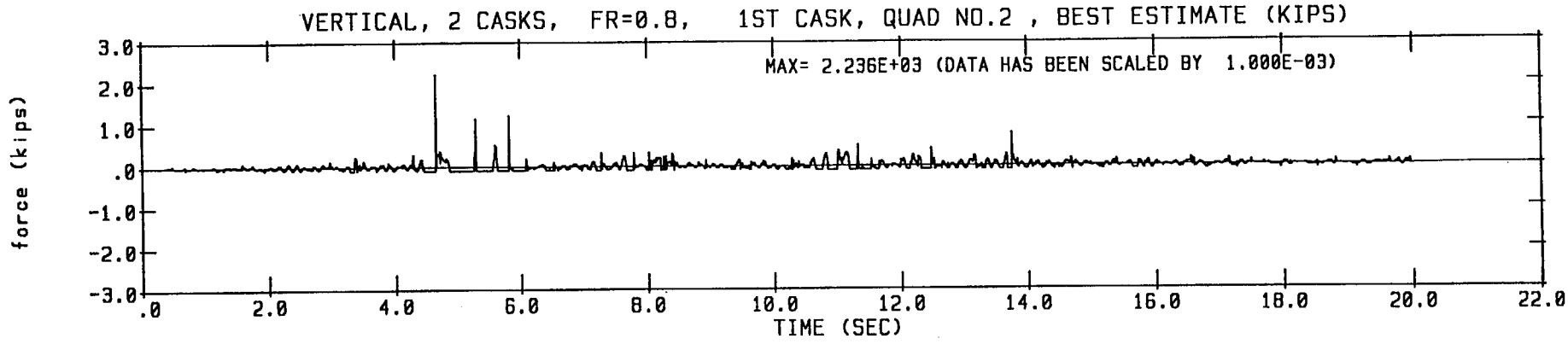


CEC JOB NO. 1101-000
BY DH DATE 4/2/01
CHECK Ann DATE 4/3/01
CALC. NO. G(PD/7)-2 REV. NO. 3
SHEET NO. 157

PFSF SASSI MODEL BRICK ELEMENT NODES (EL. -5.0')

5.2.2 Dynamic Loading

The following page shows the vertical load which was applied to node 249 of the SASSI model.



SASSI INPUT

CEC JOB NO. 1101-000
BY PH DATE 4/12/01
CHECK [illegible] DATE 4/13/01
CALC. NO. 6.1.20.13-2 REV. NO. 2
SHEET NO. 161

TIME HISTORY FILE = v2beq2.ths

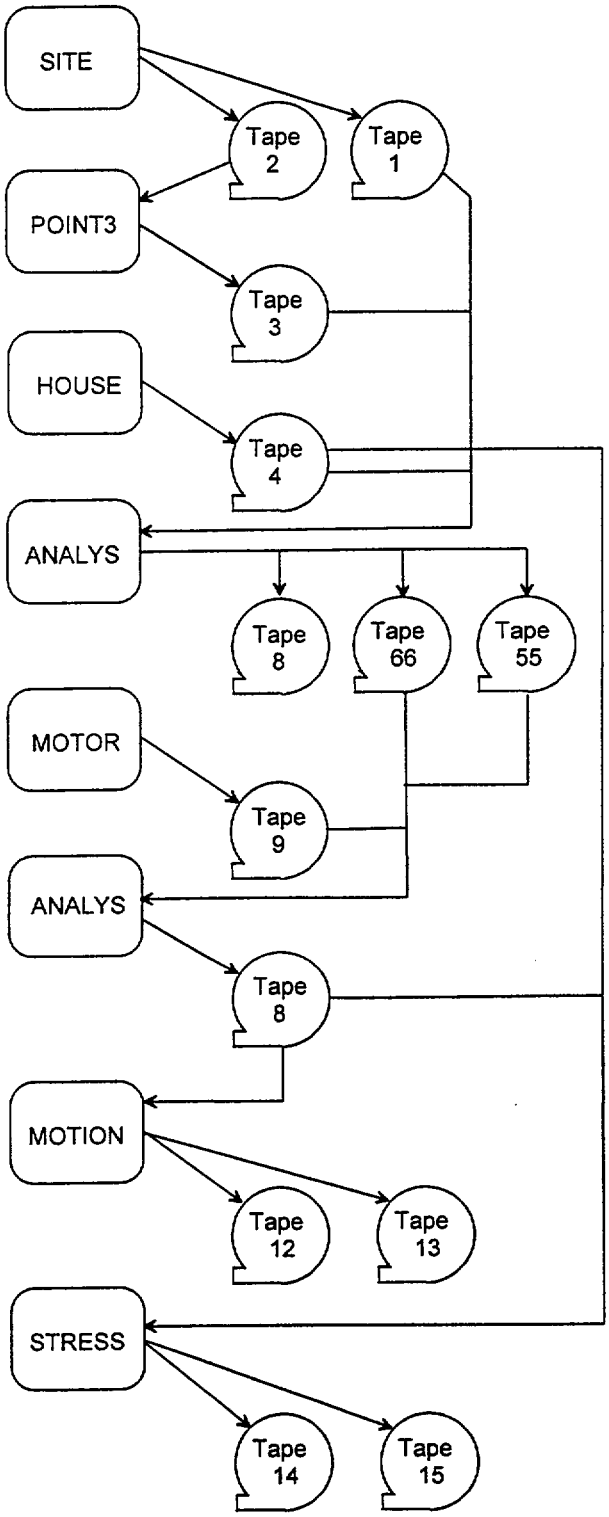
5.2.3 SASSI Analysis Procedure

The following pages show the SASSI analysis procedure.

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/2/01
CALC. NO.	G(PO17)-2	REV. NO.	3
CHECKED	[illegible]	DATE	4/3/01
PROJECT	Private Fuel Storage Facility	JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design	SHEET NO.	163

SASSI Analysis Procedure - Lower Bound Soil



Step 1. Run the SITE module.
Input = lb3sd

Step 2. Run the POINT3 module.
Input = lb3pd

Step 3. Run the HOUSE module.
Input = lb3hd

Step 4. Run the ANALYS module.
Input = lb3ad

Step 5. Run the MOTOR module.
Input = l3249zmd

Step 6. Run the ANALYS module.
Input = l3249zad

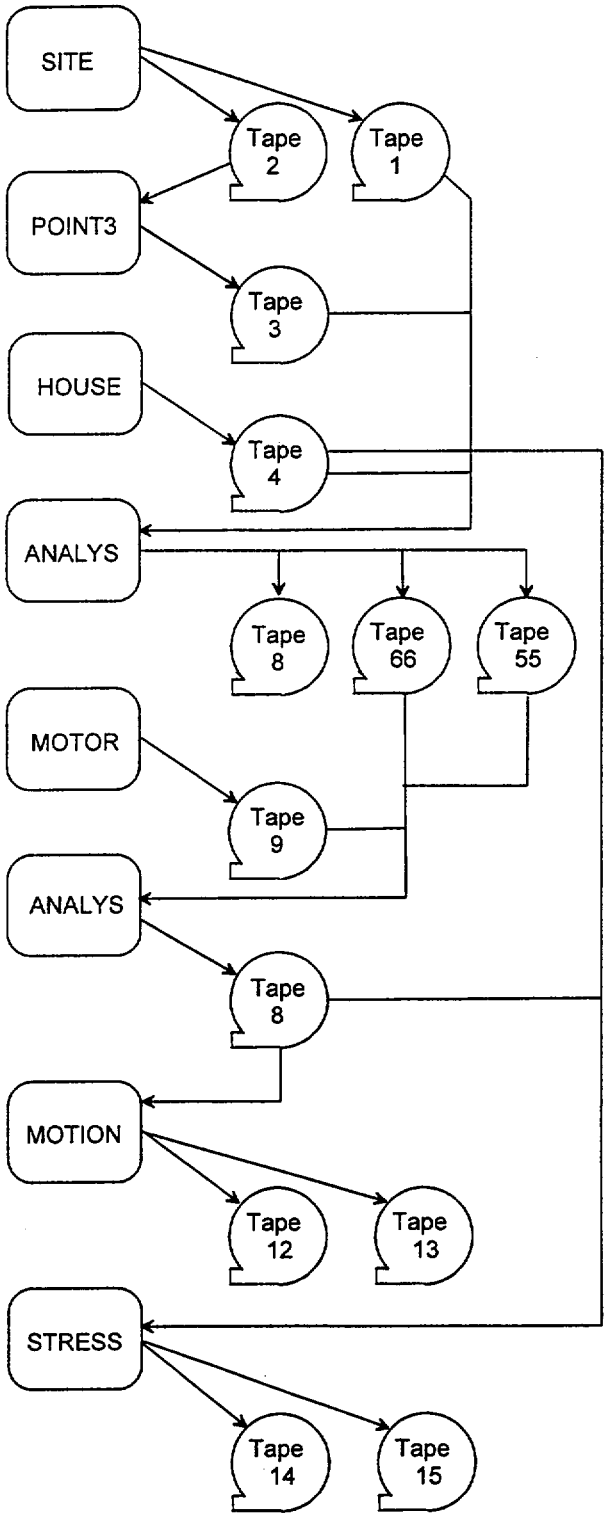
Step 7. Run the MOTION module.
Input = l3249zod

Step 8. Run the STRESS module.
Input = l3249ztd

CALCULATION SHEET

ORIGINATOR	DH	DATE	4/2/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED amm	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 164

SASSI Analysis Procedure - Best Estimate Soil



Step 1. Run the SITE module.
Input = be3sd

Step 2. Run the POINT3 module.
Input = be3pd

Step 3. Run the HOUSE module.
Input = be3hd

Step 4. Run the ANALYS module.
Input = be3ad

Step 5. Run the MOTOR module.
Input = b3249zmd

Step 6. Run the ANALYS module.
Input = b3249zad

Step 7. Run the MOTION module.
Input = b3249zod

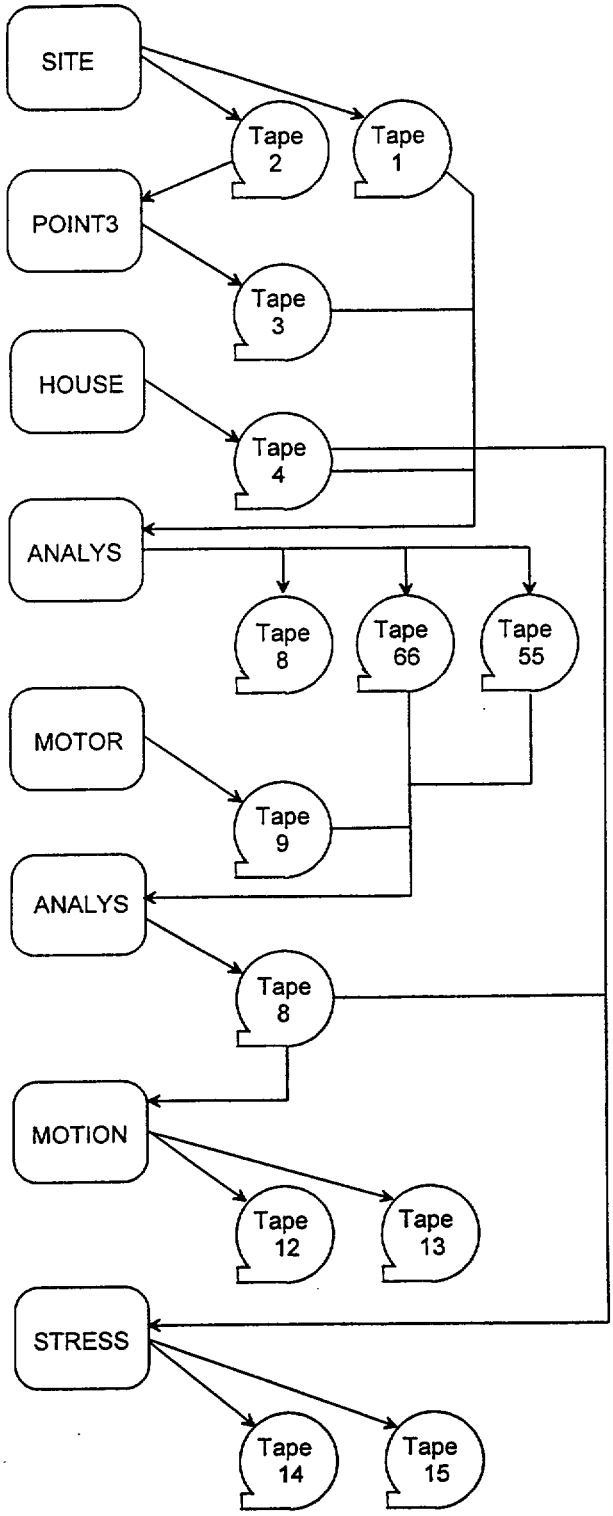
Step 8. Run the STRESS module.
Input = b3249ztd

CALCULATION SHEET

CEC

ORIGINATOR DH DATE 4/2/01 CALC. NO. G(PO17)-2 REV. NO. 3
CHECKED [illegible] DATE 4/3/01
PROJECT Private Fuel Storage Facility JOB NO. 1101-000
SUBJECT Storage Pad Analysis and Design SHEET NO. 165

SASSI Analysis Procedure - Upper Bound Soil



Step 1. Run the SITE module.
Input = ub3sd

Step 2. Run the POINT3 module.
Input = ub3pd

Step 3. Run the HOUSE module.
Input = ub3hd

Step 4. Run the ANALYS module.
Input = ub3ad

Step 5. Run the MOTOR module.
Input = u3249zmd

Step 6. Run the ANALYS module.
Input = u3249zad

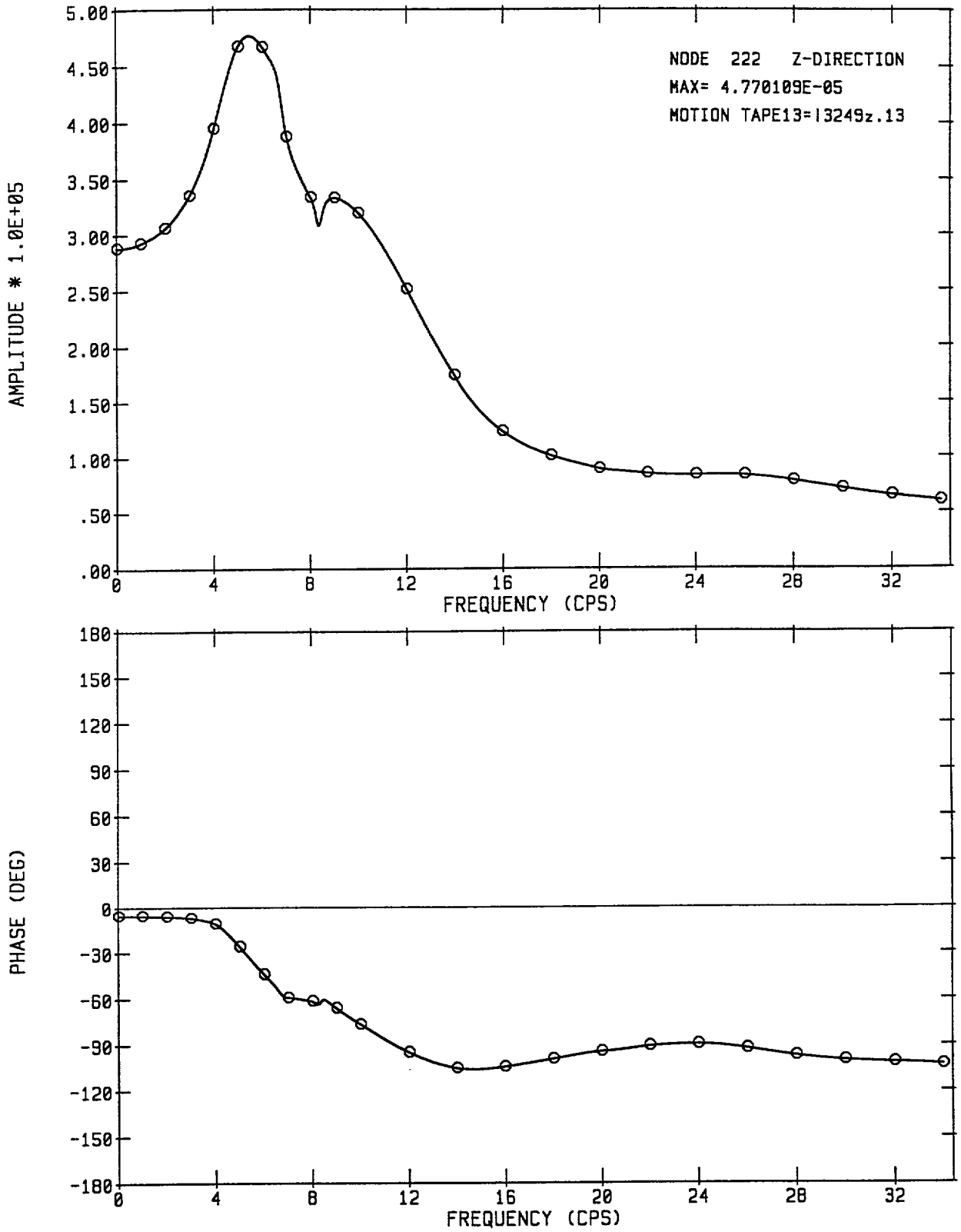
Step 7. Run the MOTION module.
Input = u3249zod

Step 8. Run the STRESS module.
Input = u3249ztd

5.2.4 SASSI Analysis Results

The following pages show the SASSI analysis results. Force-to-displacement transfer functions are shown for selected nodes. Force-to-moment transfer functions are shown for selected elements.

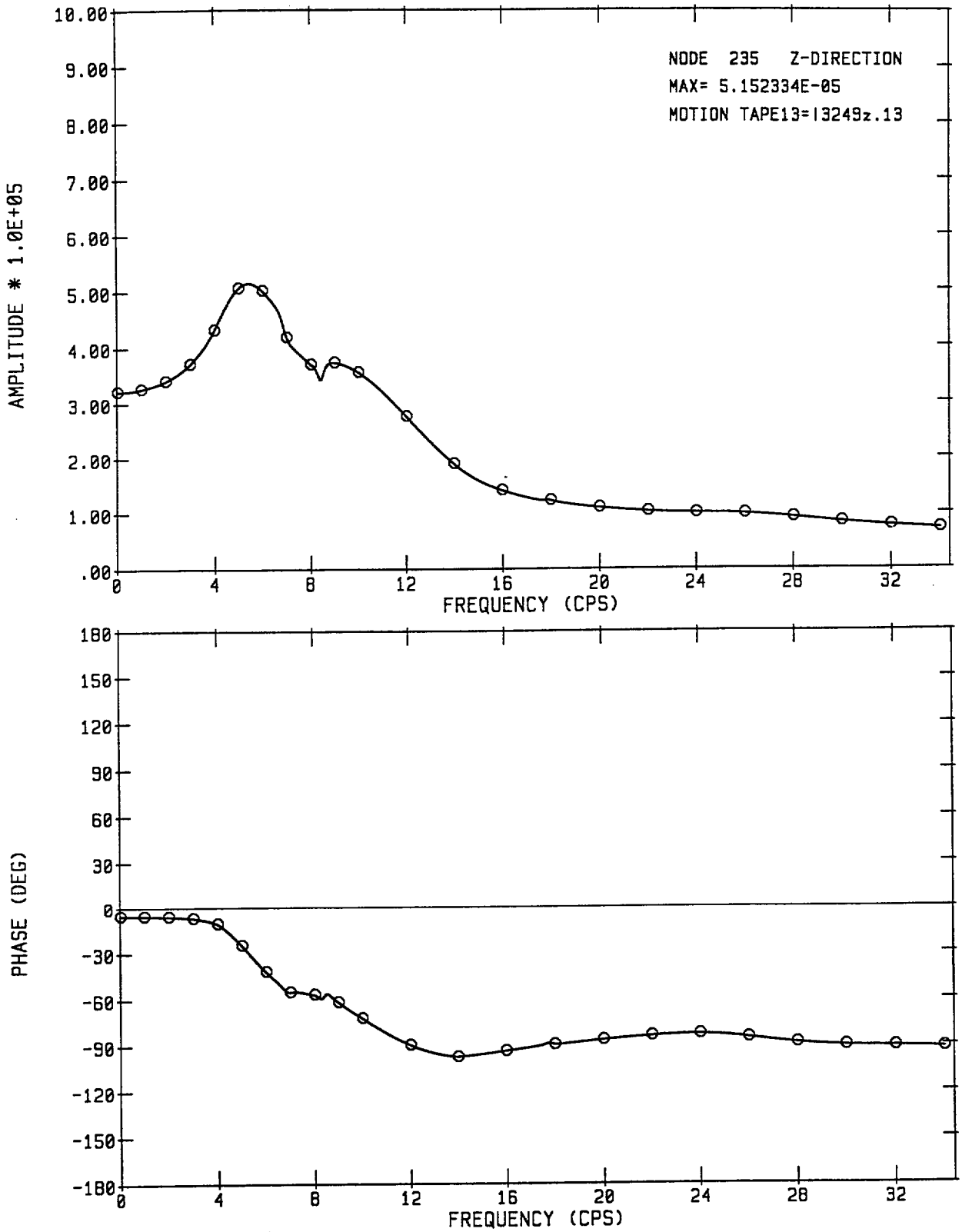
L3249ZOD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK Quin DATE 4/3/01
CALC. NO. G(P97)-2 REV. NO. 3
SHEET NO. 167

ve\Gfz222Z.INP 1 4/ 3/ 1

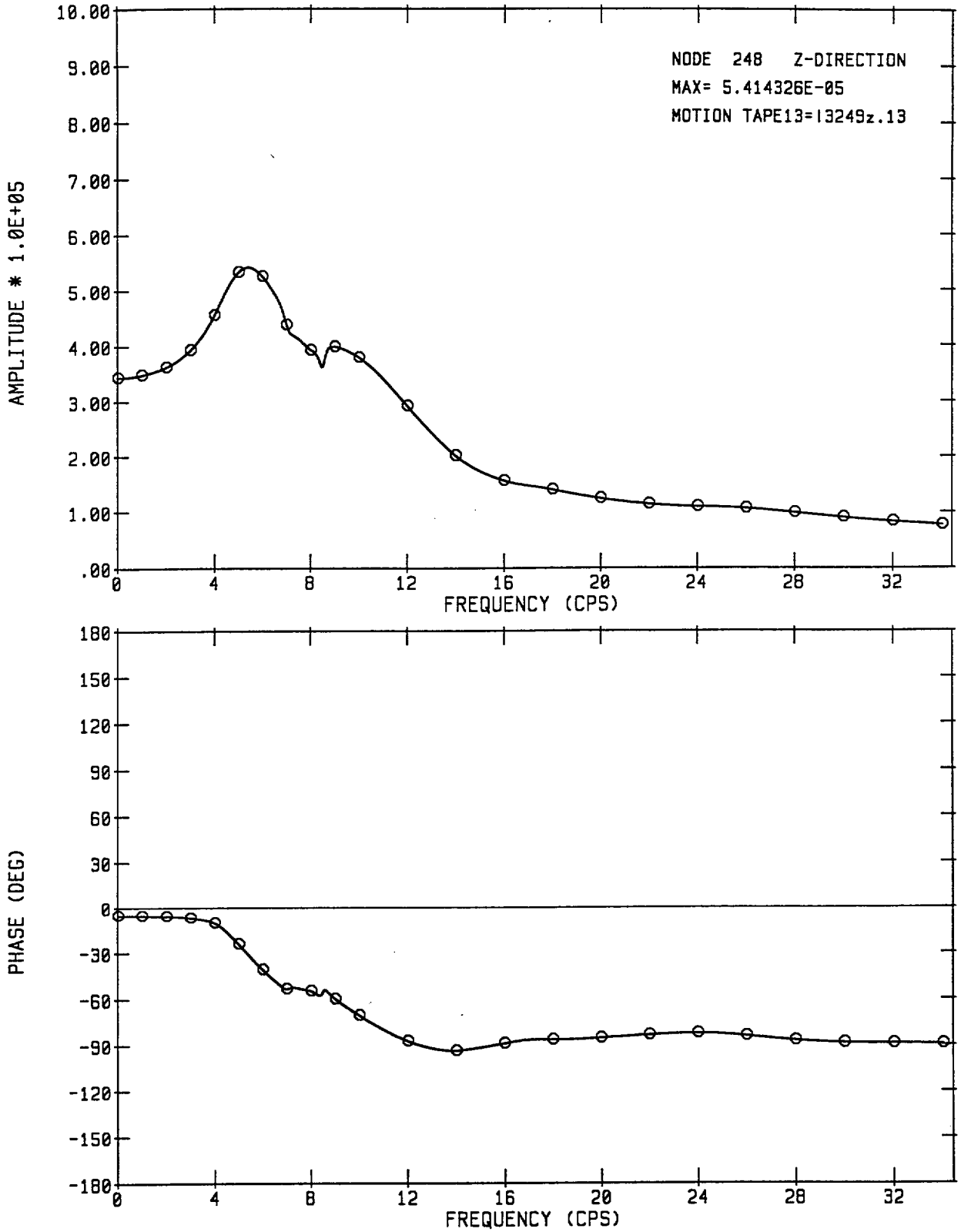
L3249ZOD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 168

ve\Gfz235Z.INP | 4/ 3/ 1

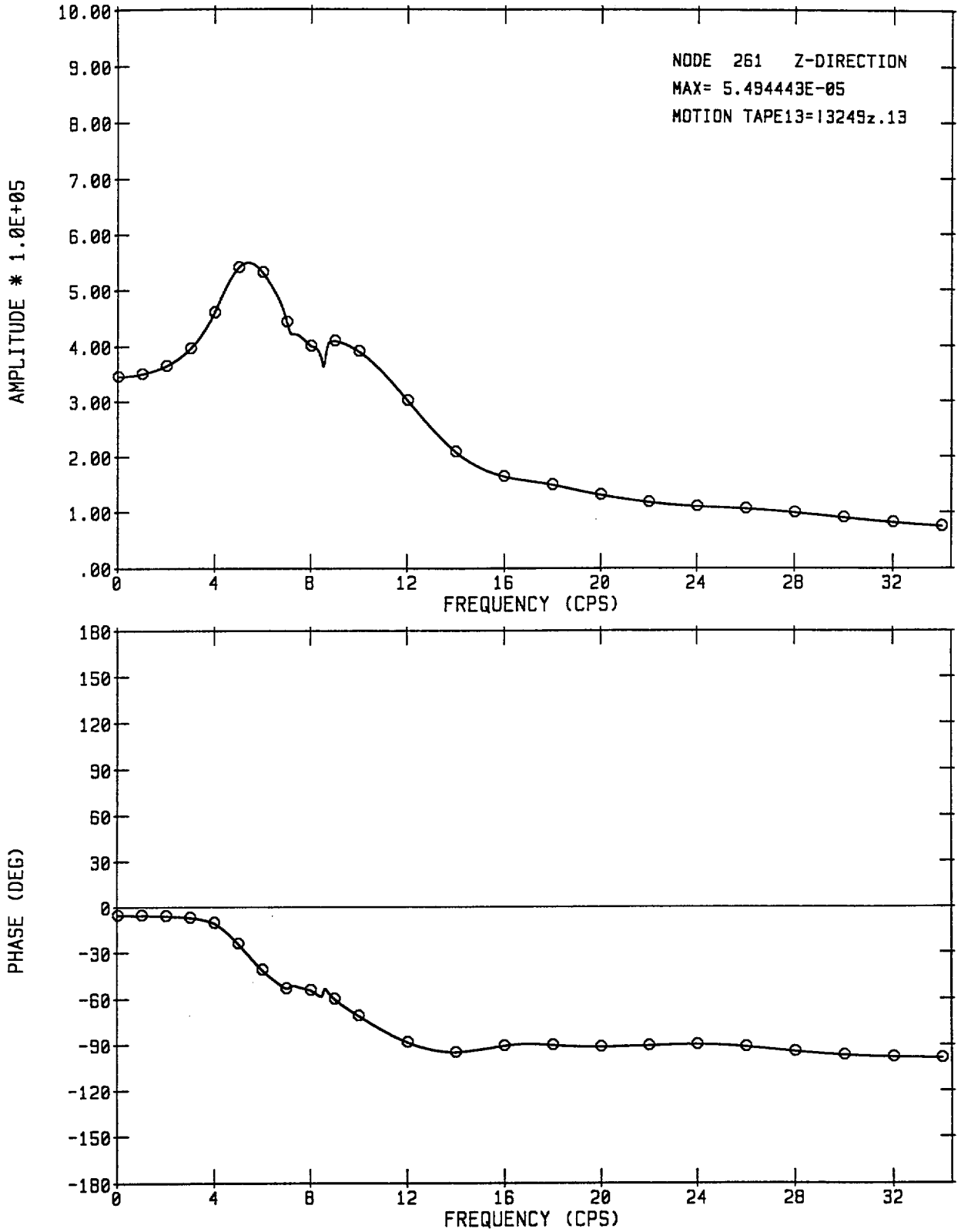
L3249ZOD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-008
BY DH DATE 4/3/01
CHECK Aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 169

ve\Gfz248Z.INP 1 4/ 3/ 1

L3249ZOD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-004

BY DH DATE 4/3/01

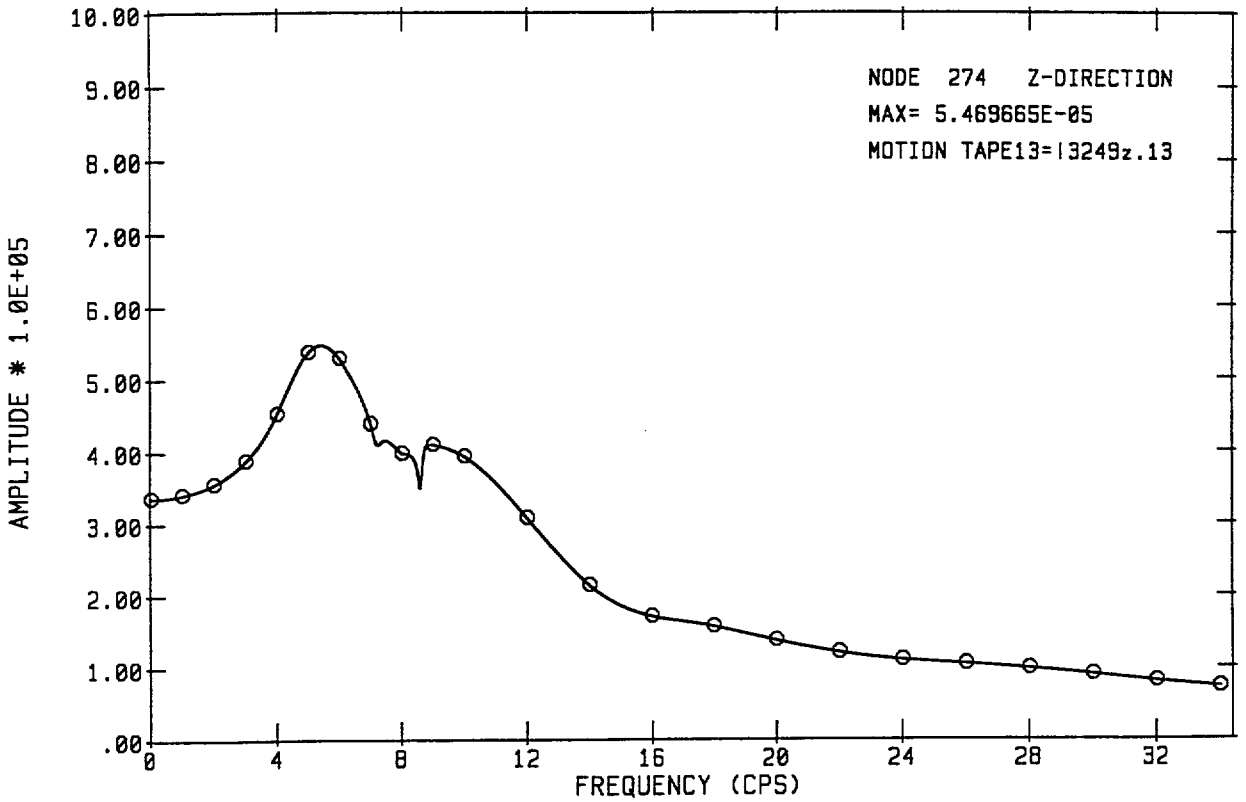
CHECK Qum DATE 4/3/01

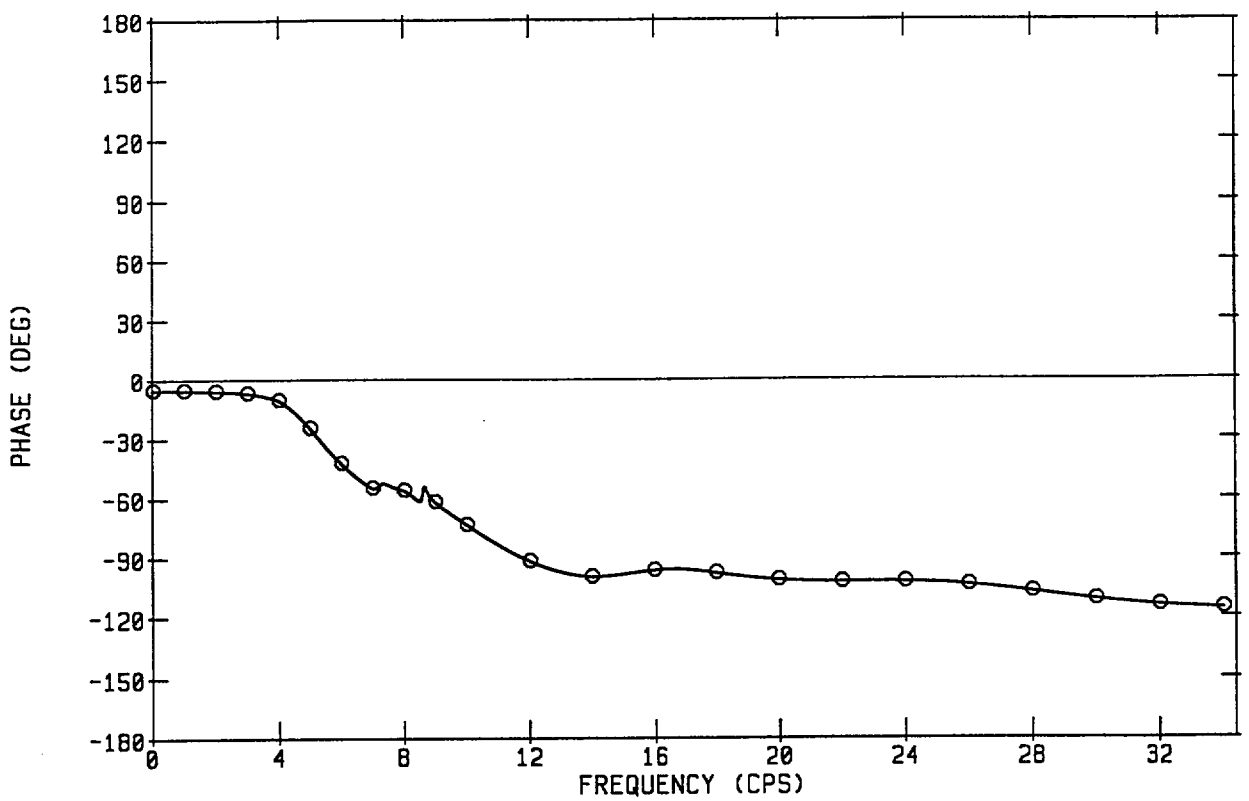
CALC. NO. G(P017)-2 REV. NO. 3

SHEET NO. 170

ve\Gfz261Z.INP 1 4/ 3/ 1

L3249ZOD, LB, V2BEQ2.TH ON NODE 249 (K-FT)

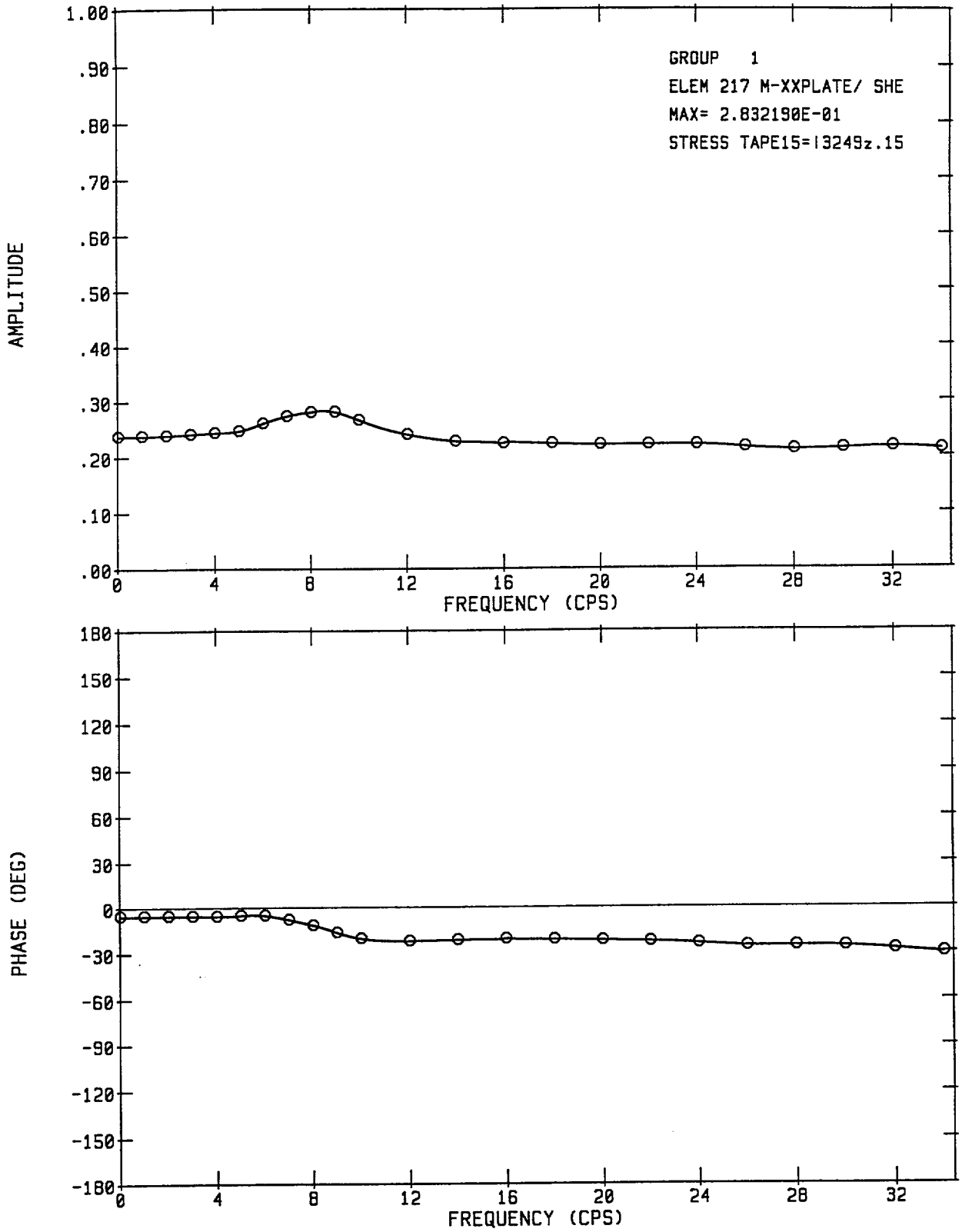




CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 171

ve\Gfz274Z.INP 1 4/ 3/ 1

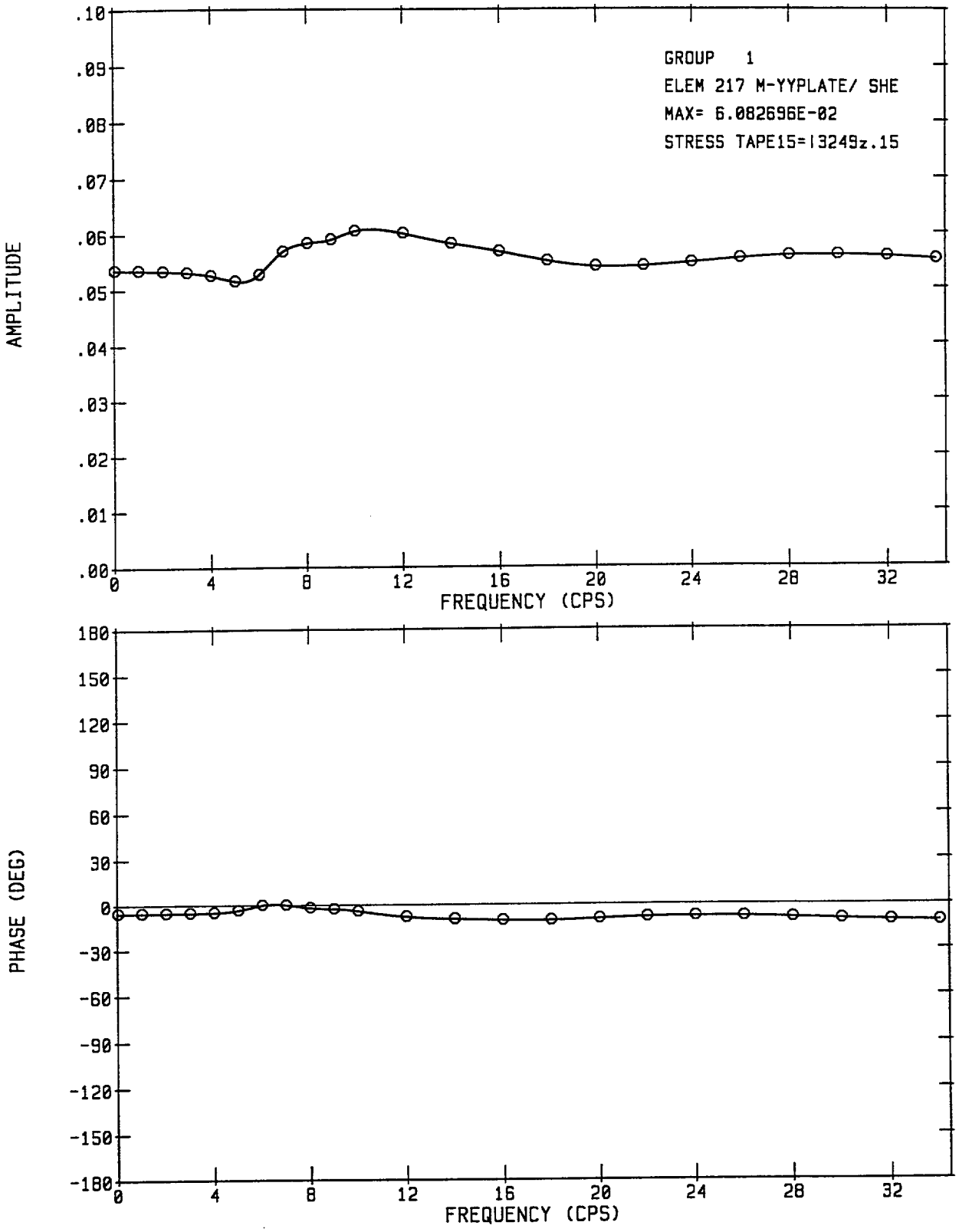
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 172

ve\G1217M-XX.INP1 4/ 3/ 1

L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1161-000

BY DH DATE 4/3/01

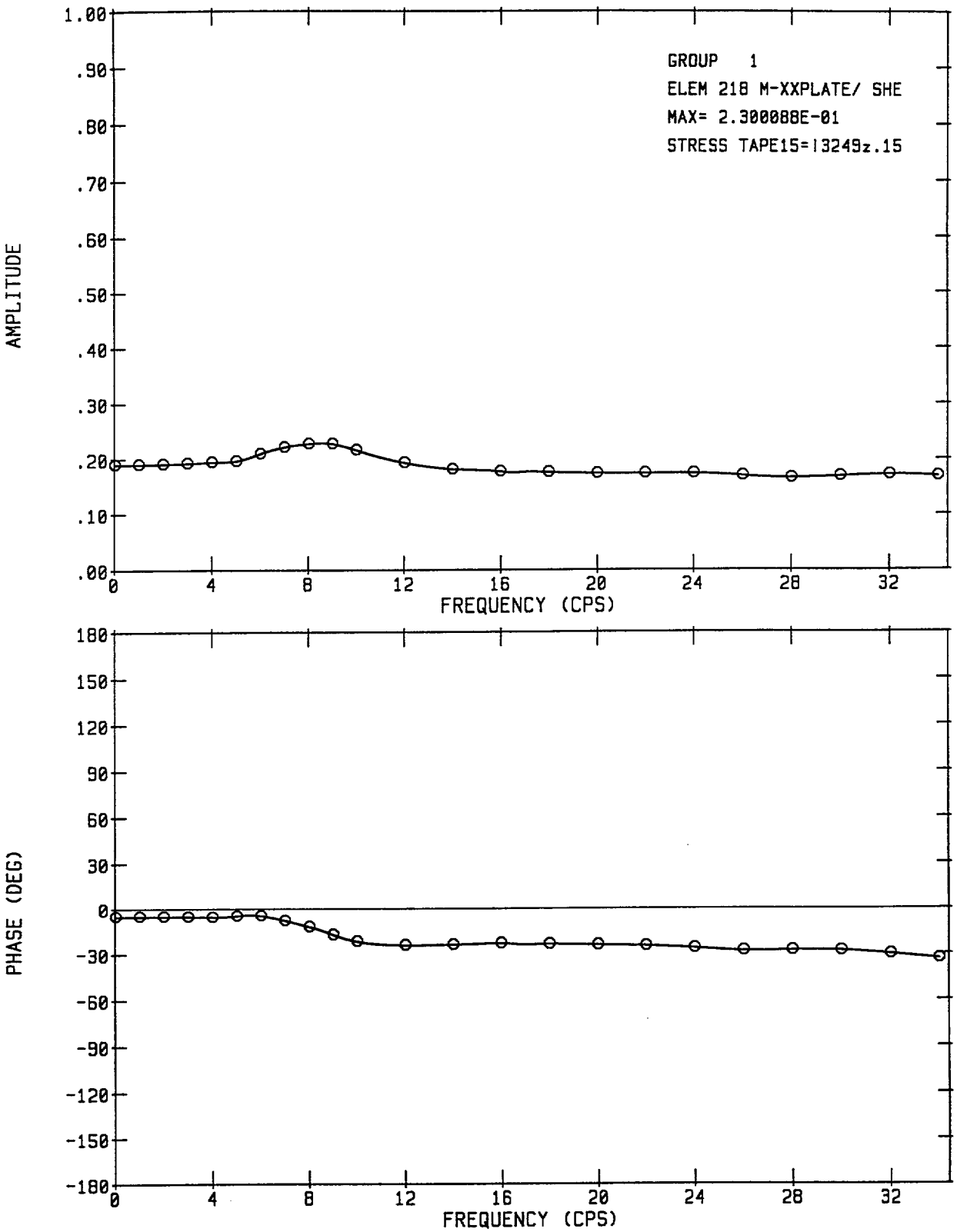
CHECK amm DATE 4/3/01

CALC. NO. G(P017)-2 REV. NO. 3

SHEET NO. 173

ve\G1217M-YY.INP1 4/ 3/ 1

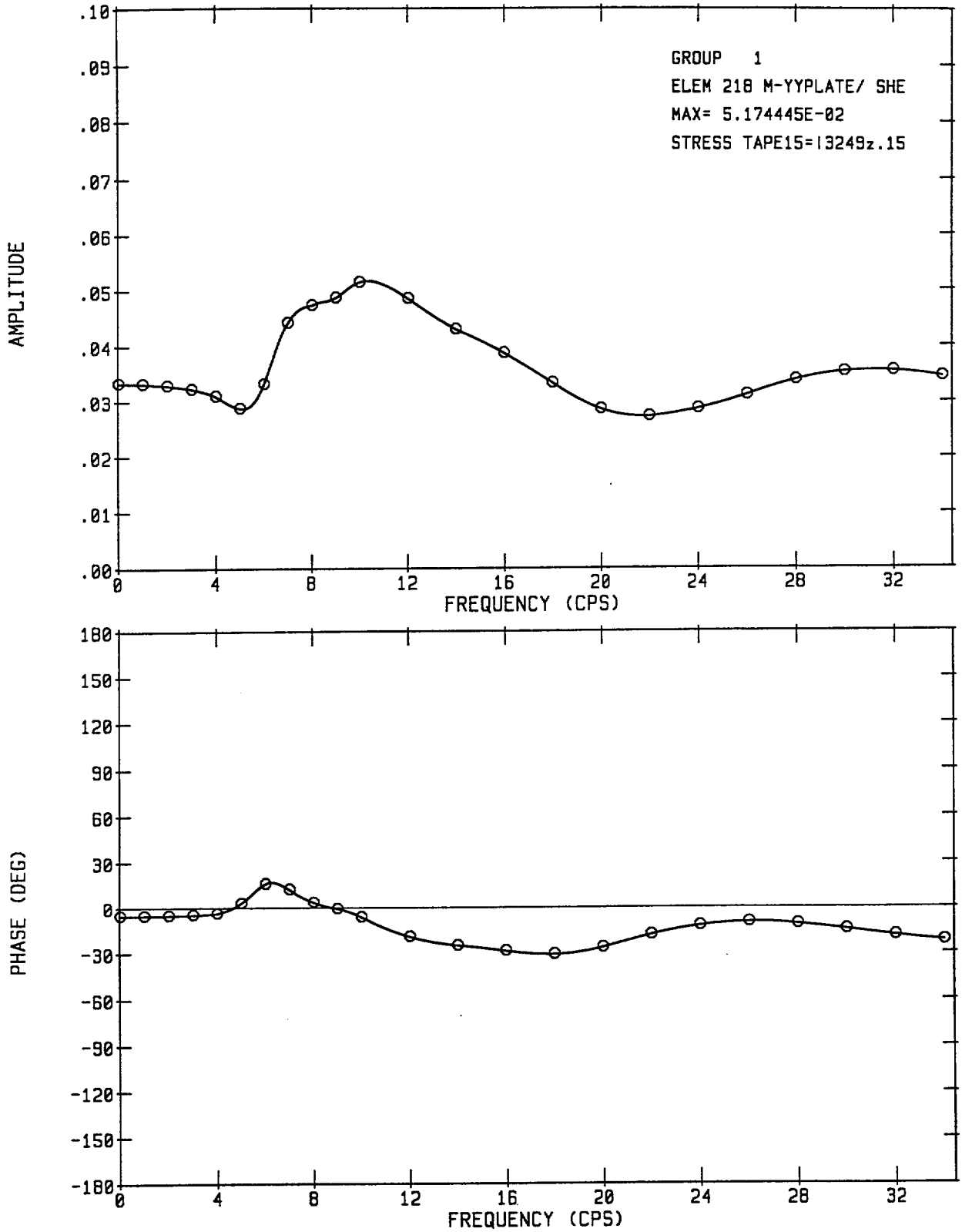
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK AMM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 174

ve\G121BM-XX.INP1 4/ 3/ 1

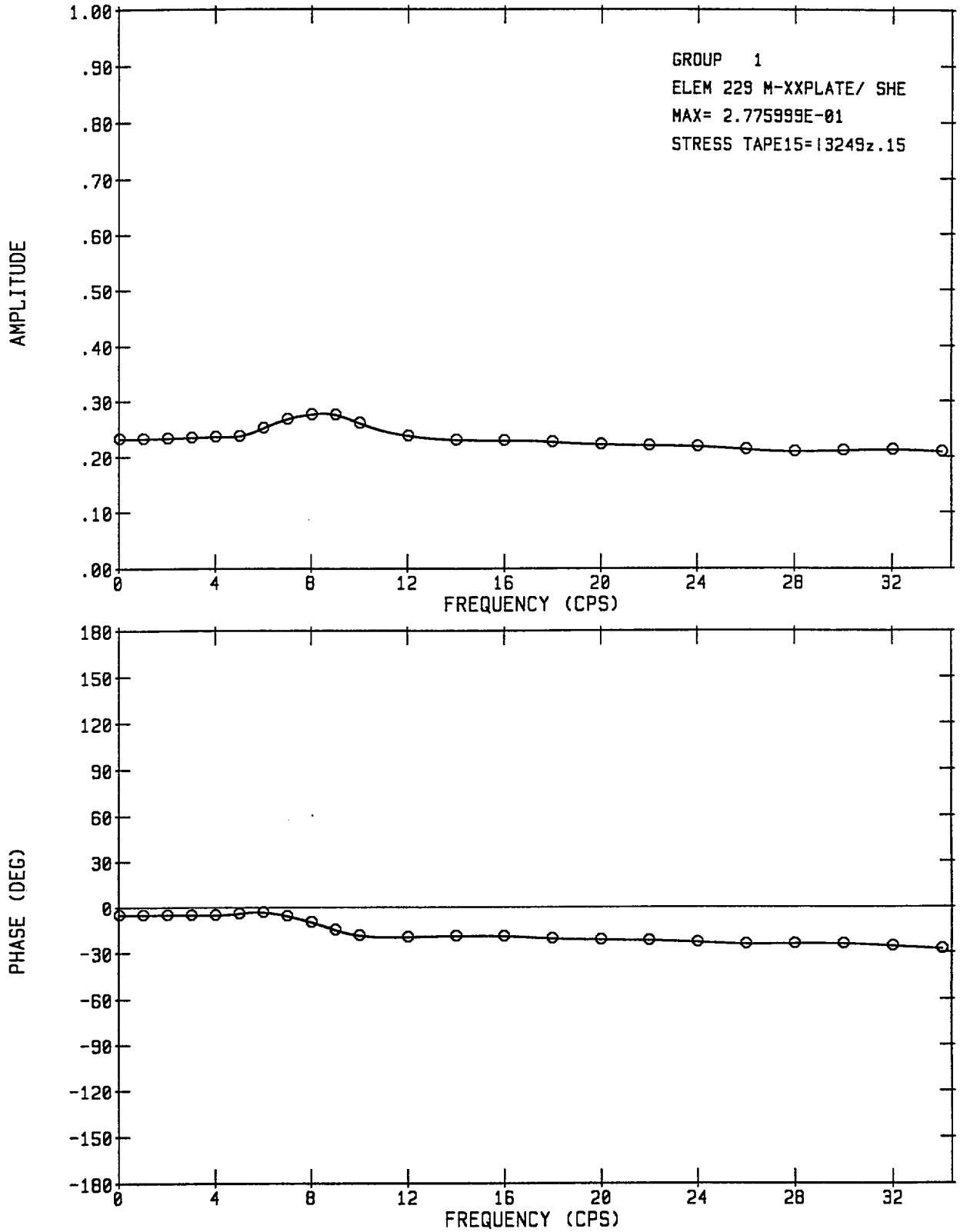
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 175

ve\G1218M-YY.INP1 4/ 3/ 1

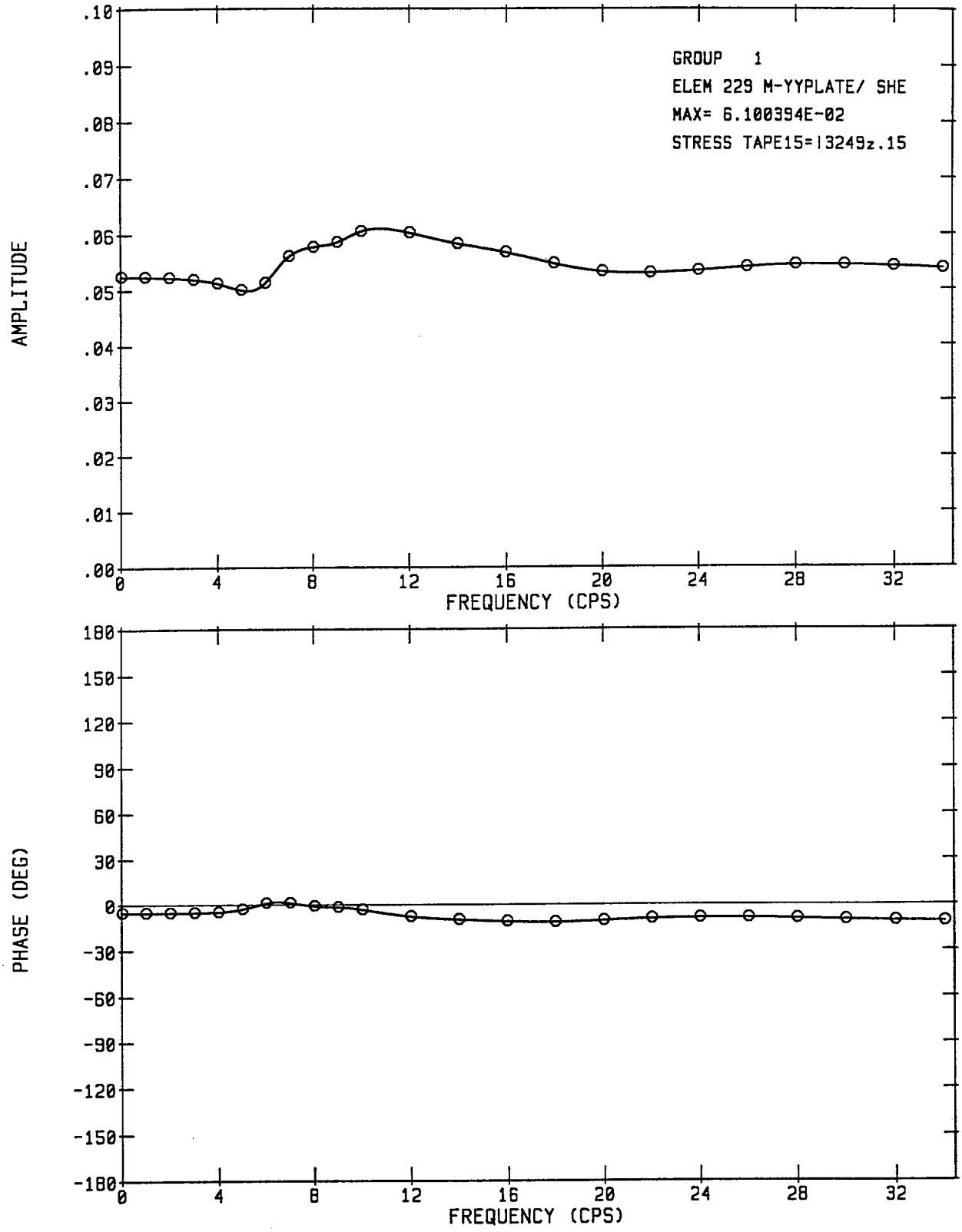
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK QWM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 176

ve\G1229M-XX.INP1 4/ 3/ 1

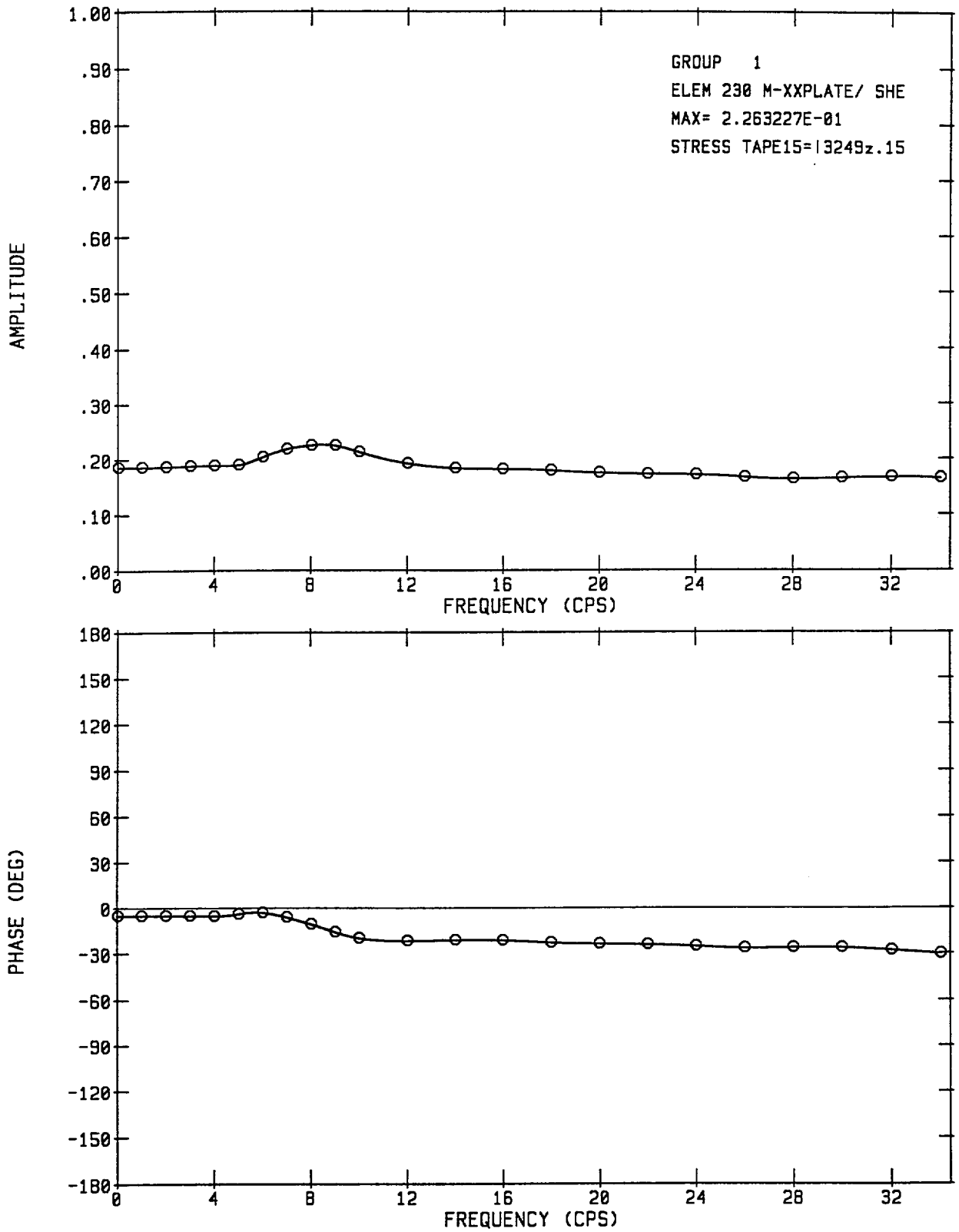
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(1017)-2 REV. NO. 3
SHEET NO. 177

ve\G1229M-YY.INP1 4/ 3/ 1

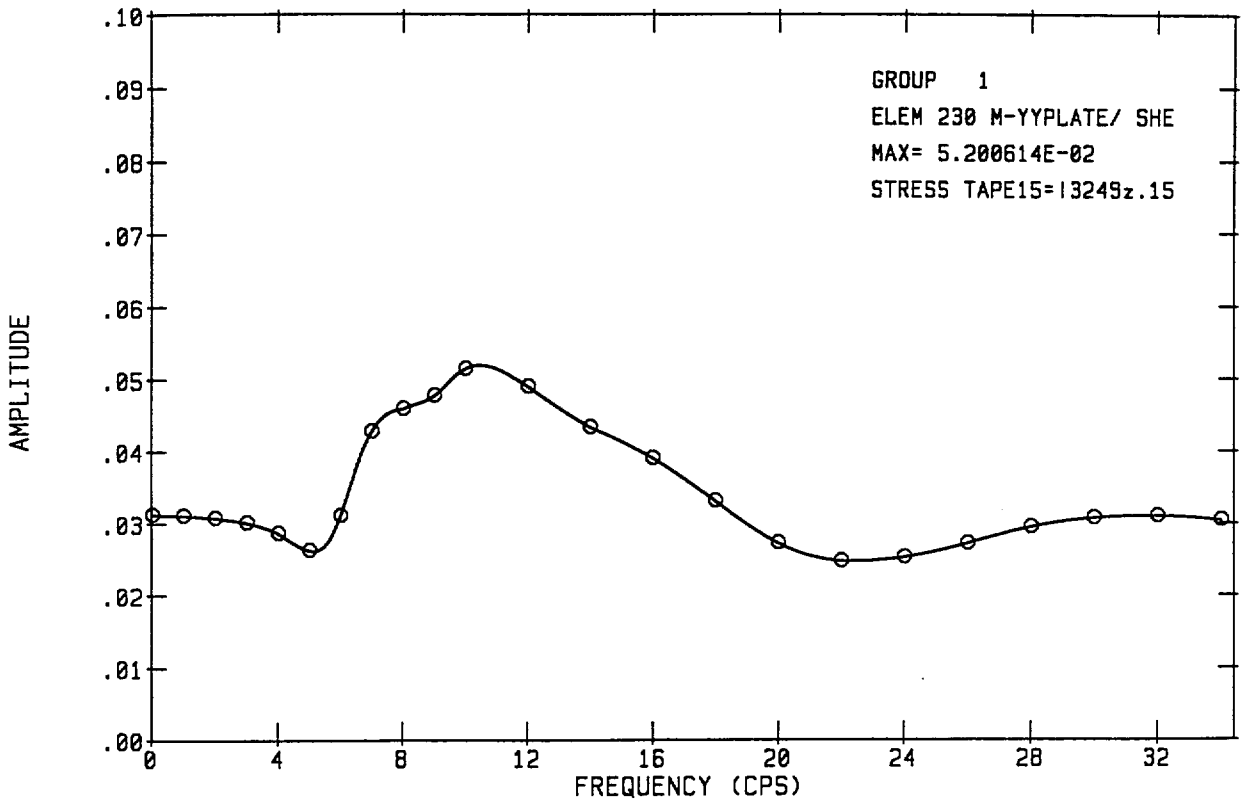
L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)

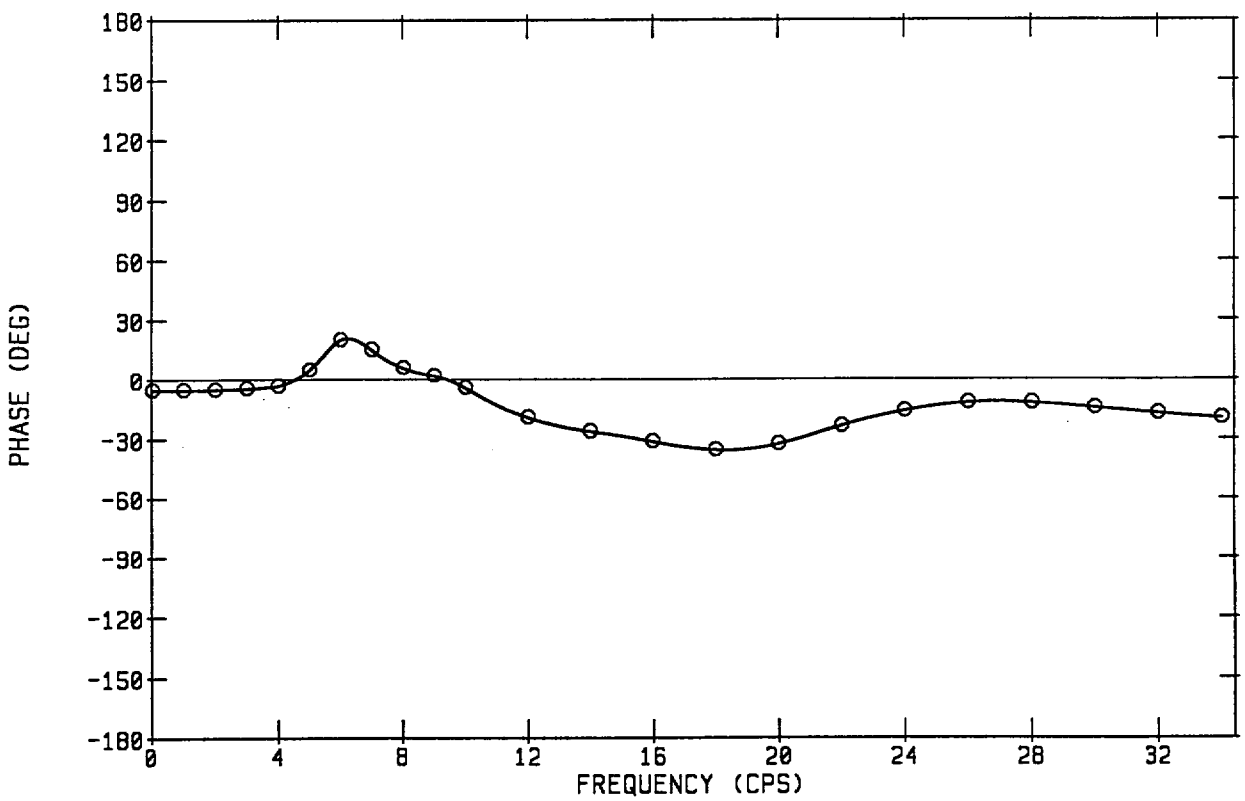


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 178

ve\G1230M-XX.INPI 4/ 3/ 1

L3249ZTD, LB, V2BEQ2.TH ON NODE 249 (K-FT)

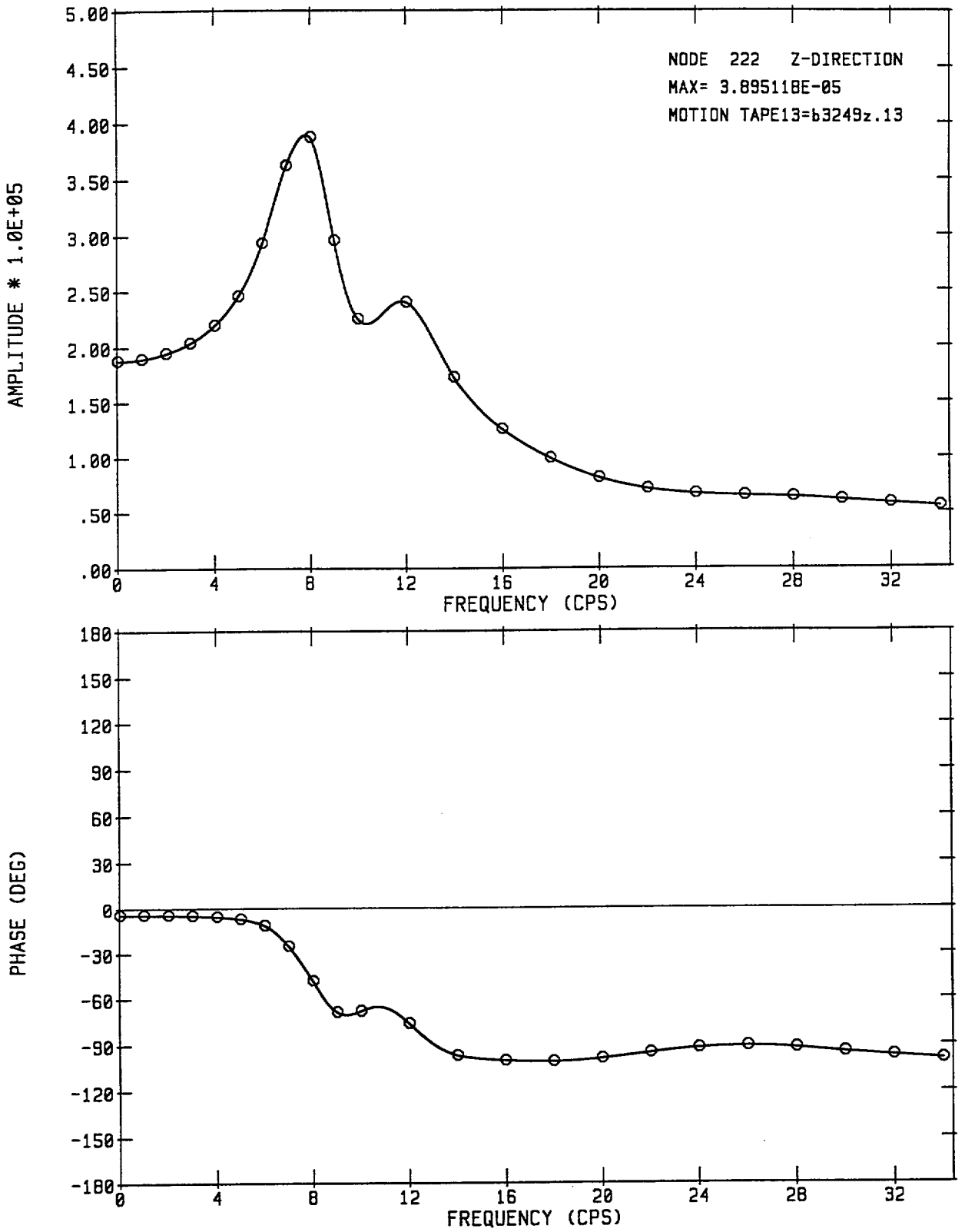




CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK GWM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 179

v2\G1230M-YY.INP1 4/ 3/ 1

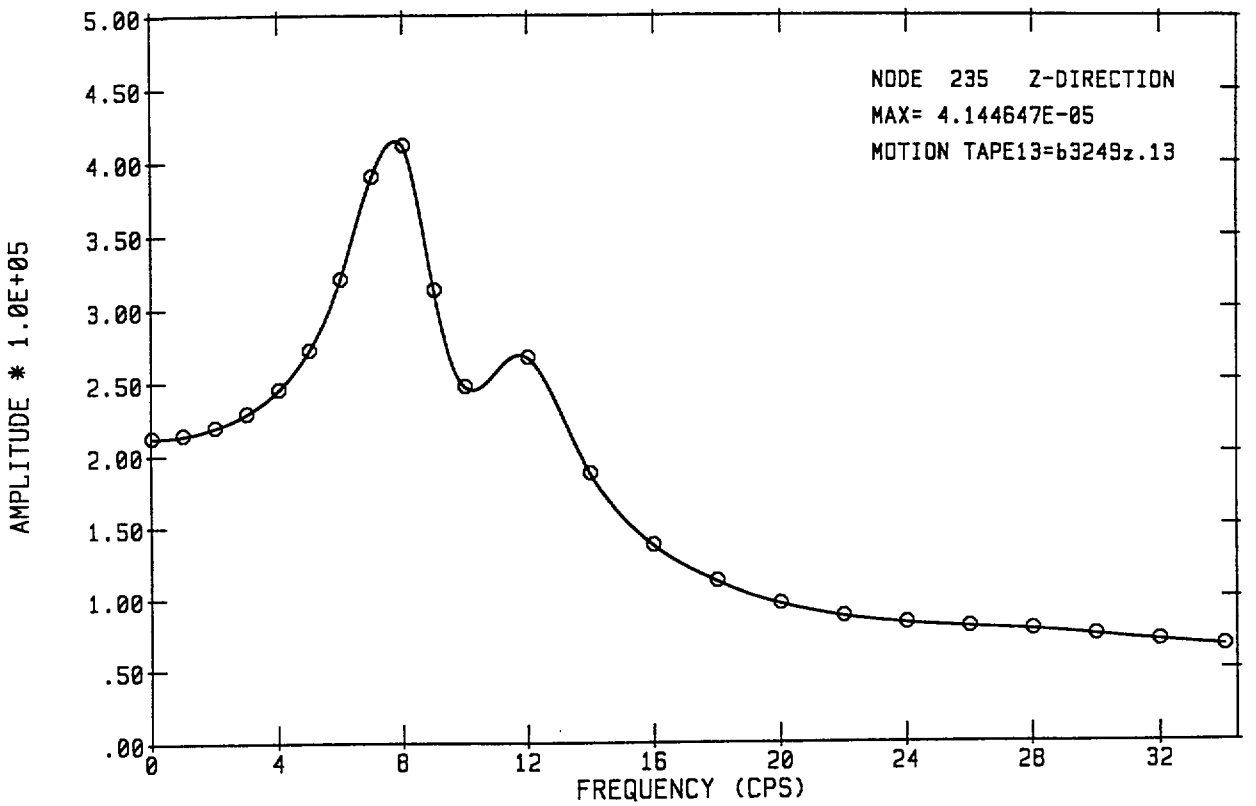
B3249ZOD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

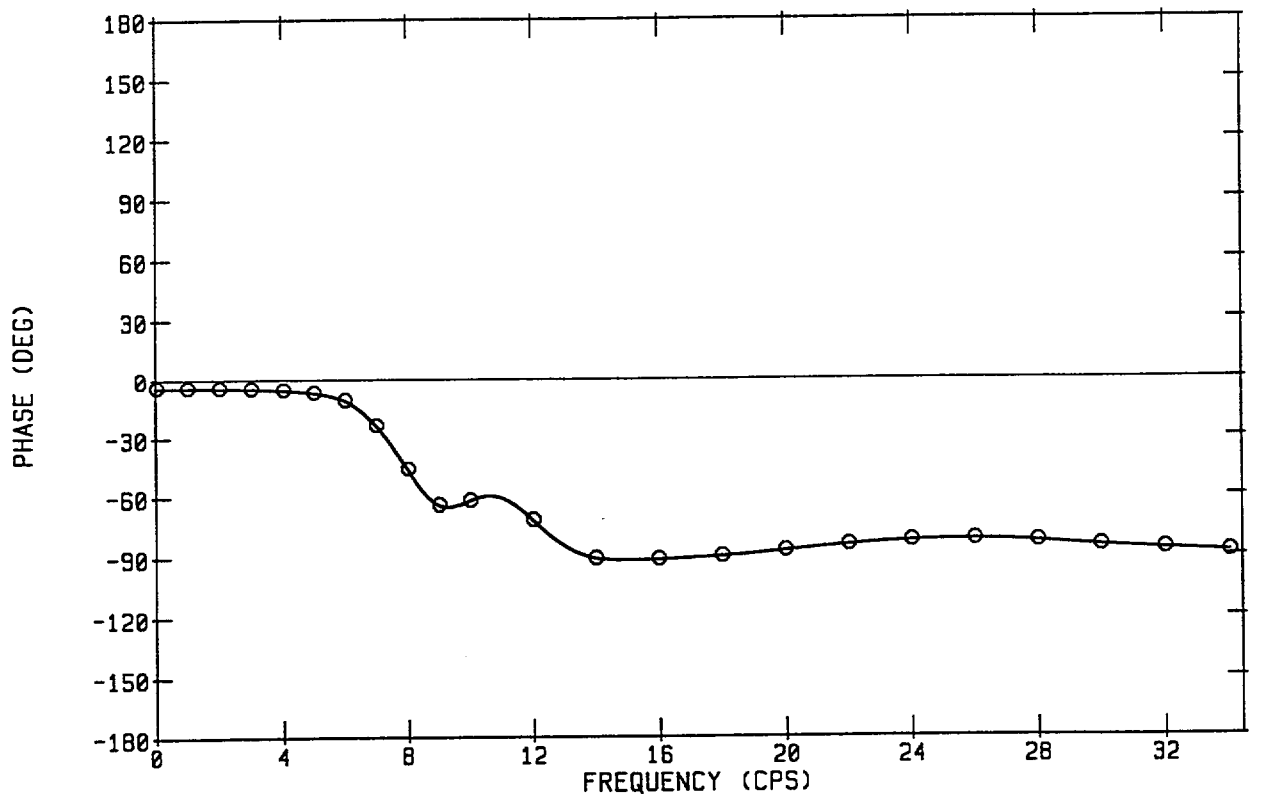


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 180

ve\Gfz222Z.INP | 4/ 3/ 1

B3249ZOD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

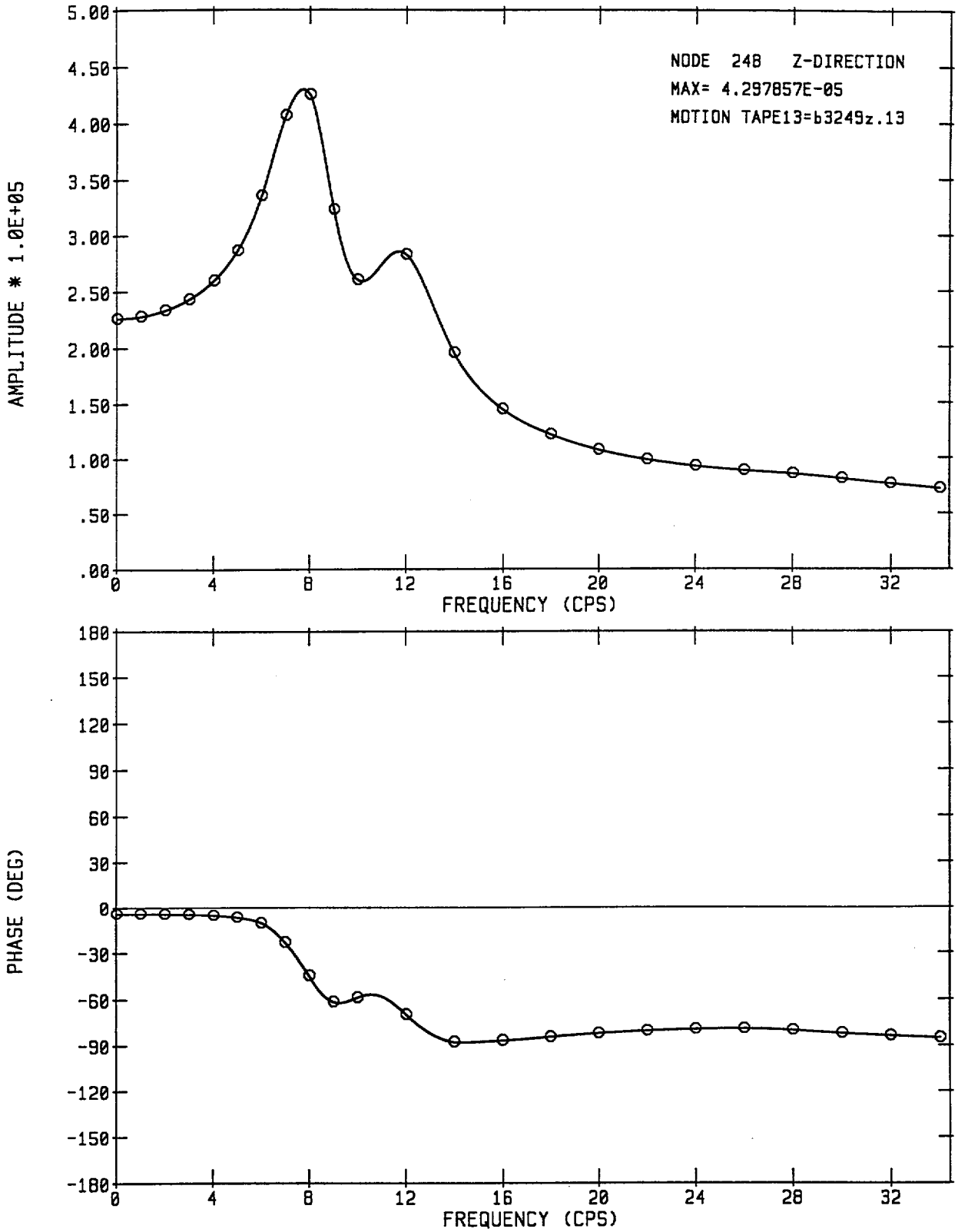




CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK AMM DATE 4/3/01
CALC. NO. G(P617)-2 REV. NO. 3
SHEET NO. 181

ve\Gfz235Z.INP 1 4/ 3/ 1

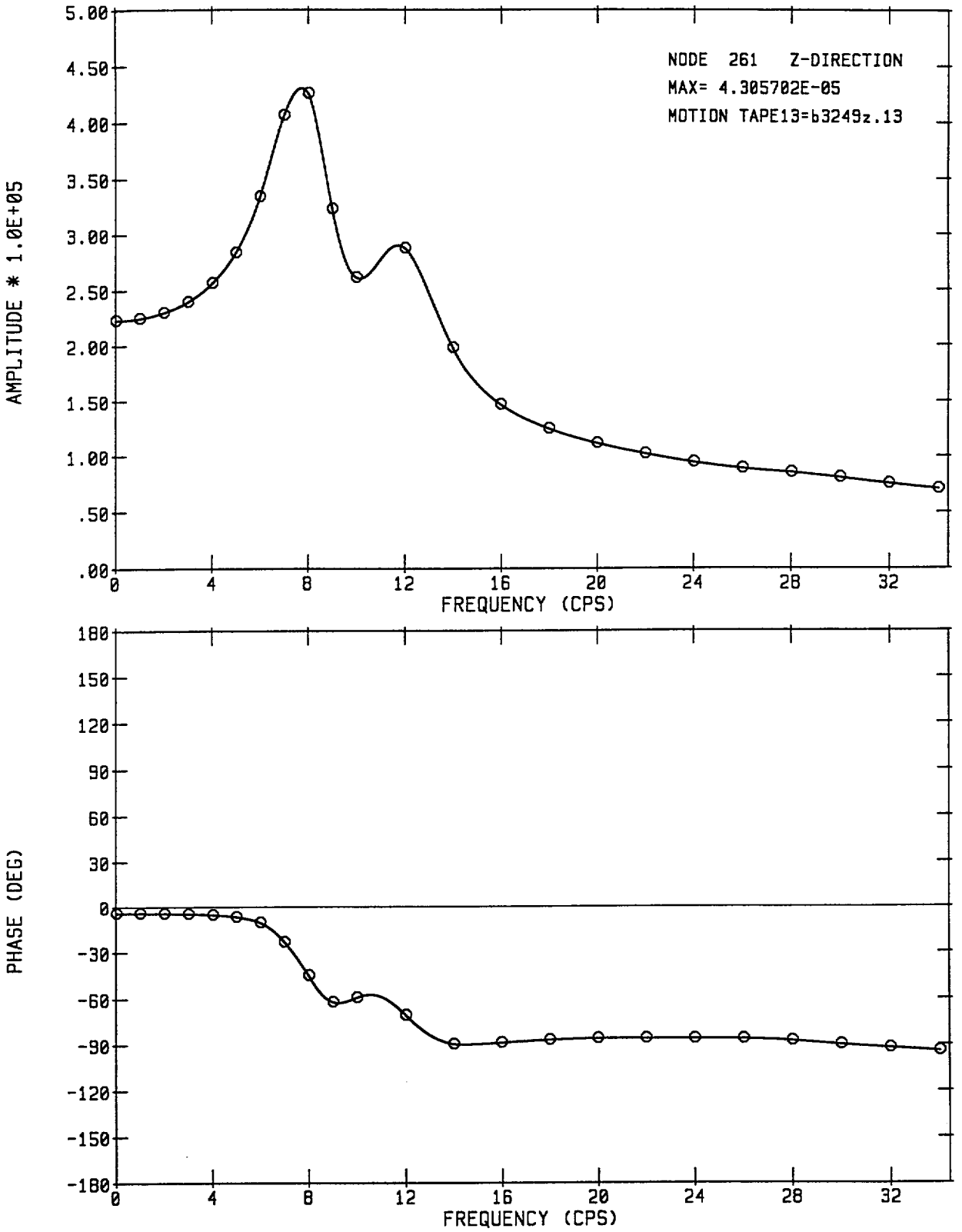
B3249ZOD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK GHM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 182

ve\Gfz248Z.INP | 4/ 3/ 1

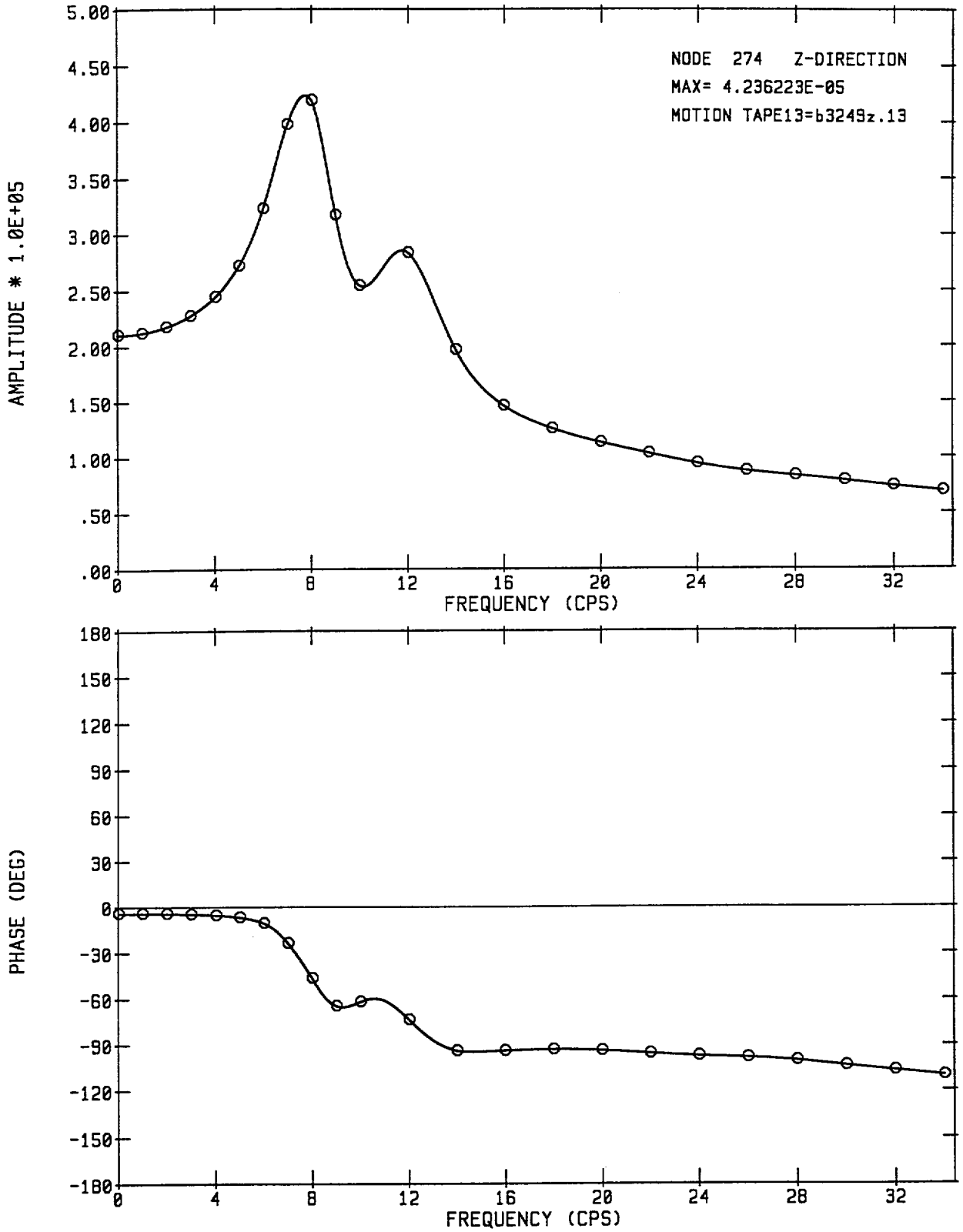
B3249ZOD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK AUM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 183

ve\Gfz261Z.INP | 4/ 3/ 1

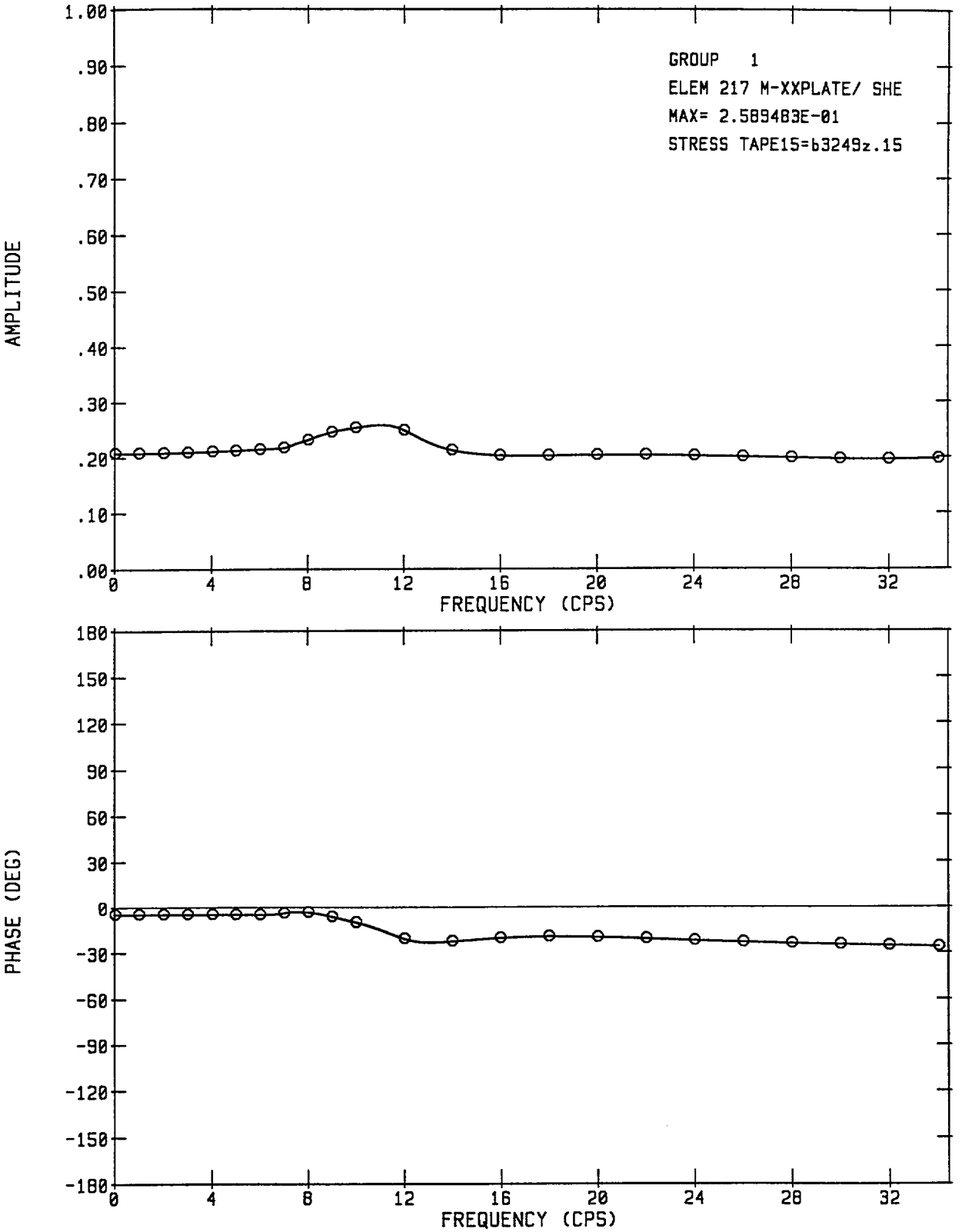
B3249ZOD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK AMM DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 184

ve\Gfz274Z.INP 1 4/ 3/ 1

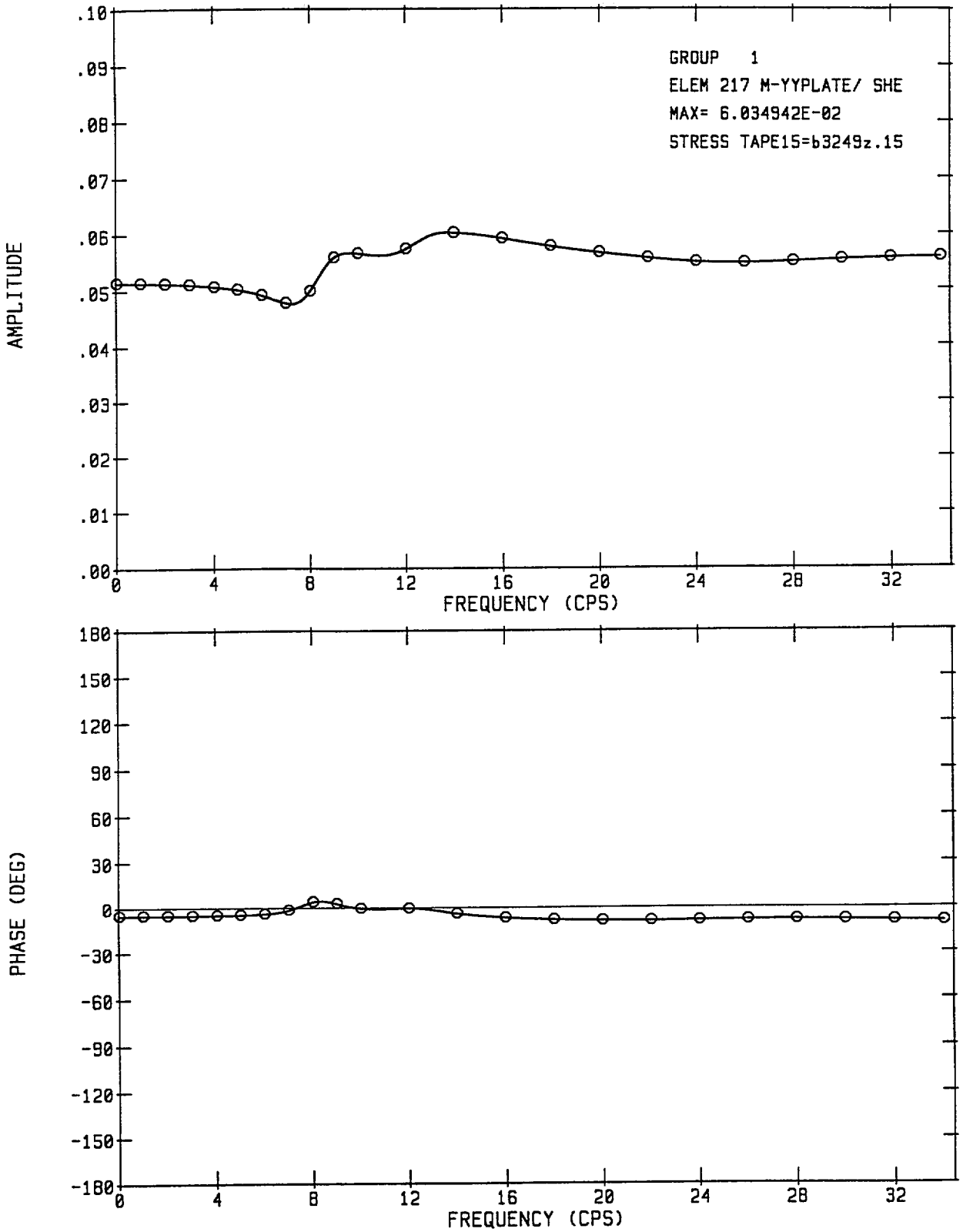
B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK CYM DATE 4/3/01
CALC. NO. G(B017)-2 REV. NO. 3
SHEET NO. 185

ve\G1217M-XX.INP1 4/ 3/ 1

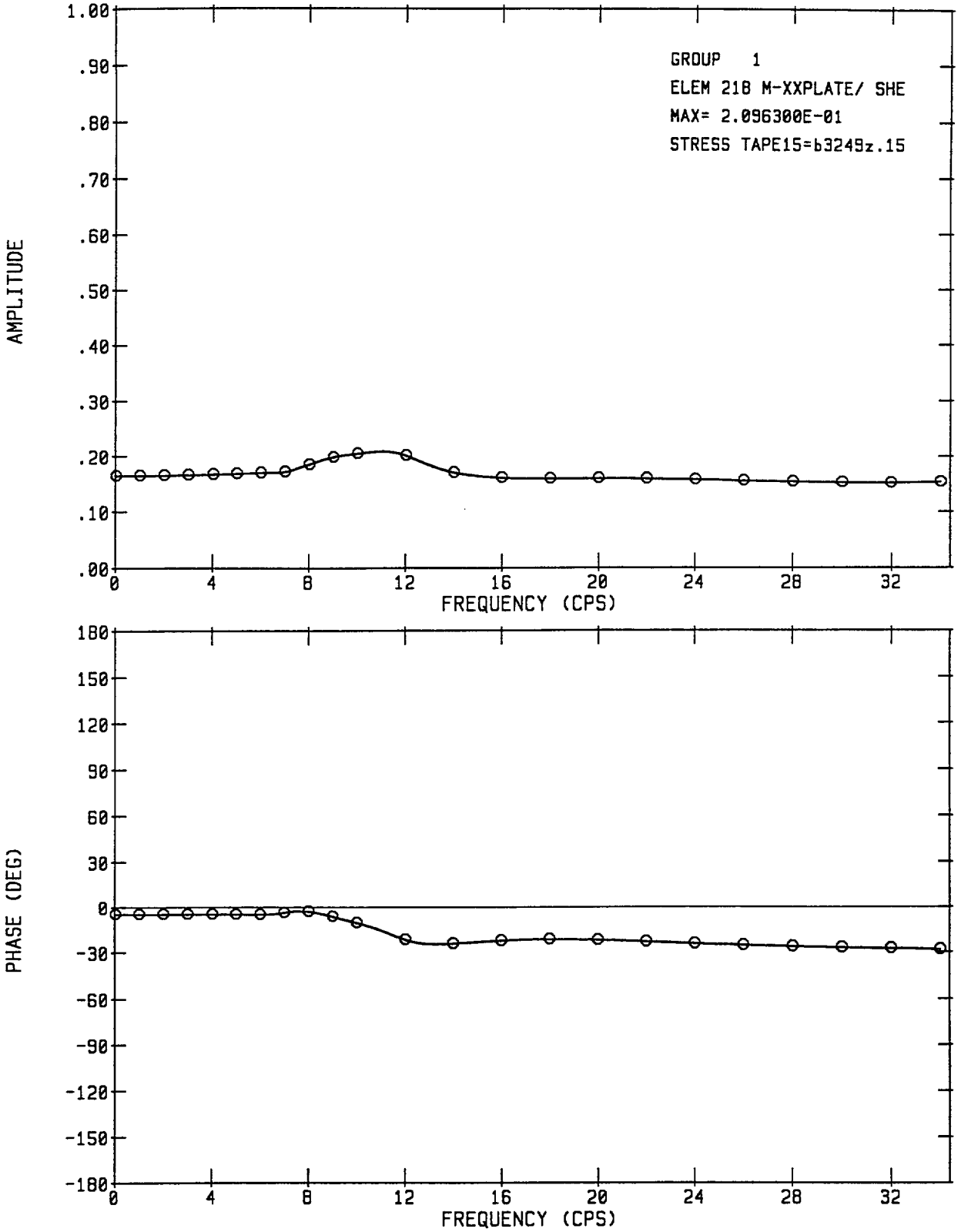
B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK [illegible] DATE 4/3/01
CALC. NO. G(P017)-7 REV. NO. 3
SHEET NO. 186

ve\G1217M-YY.INP! 4/ 3/ 1

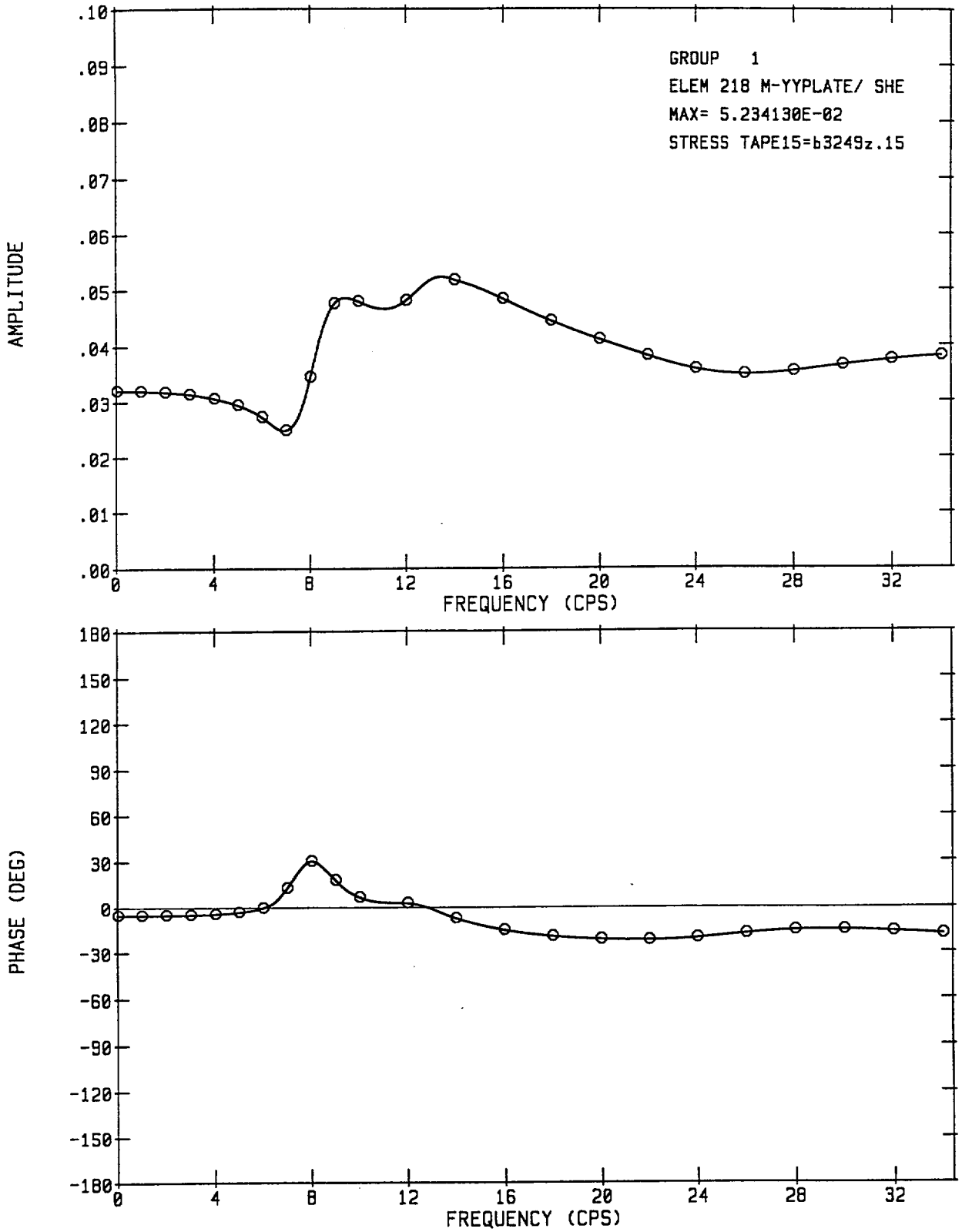
B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK Qum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 187

ve\G1218M-XX.INP1 4/ 3/ 1

B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000

BY DH DATE 4/3/01

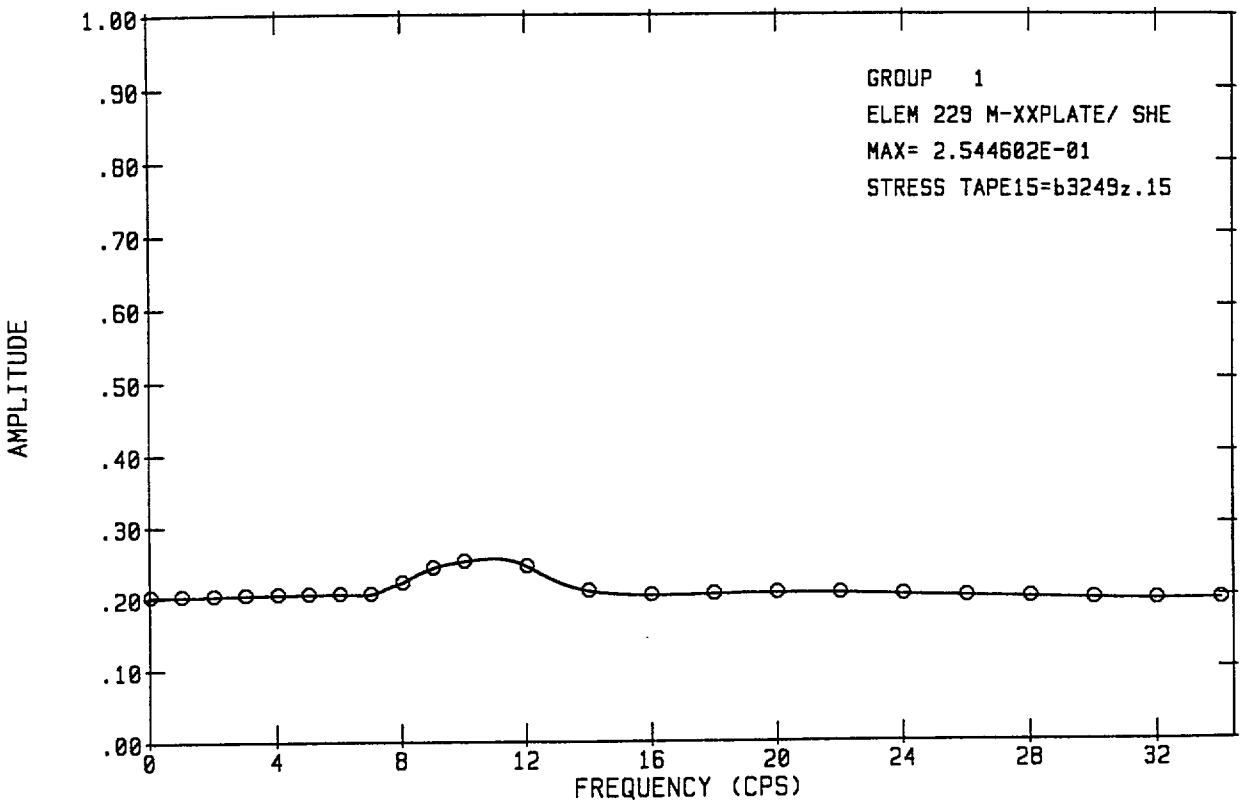
CHECK aym DATE 4/3/01

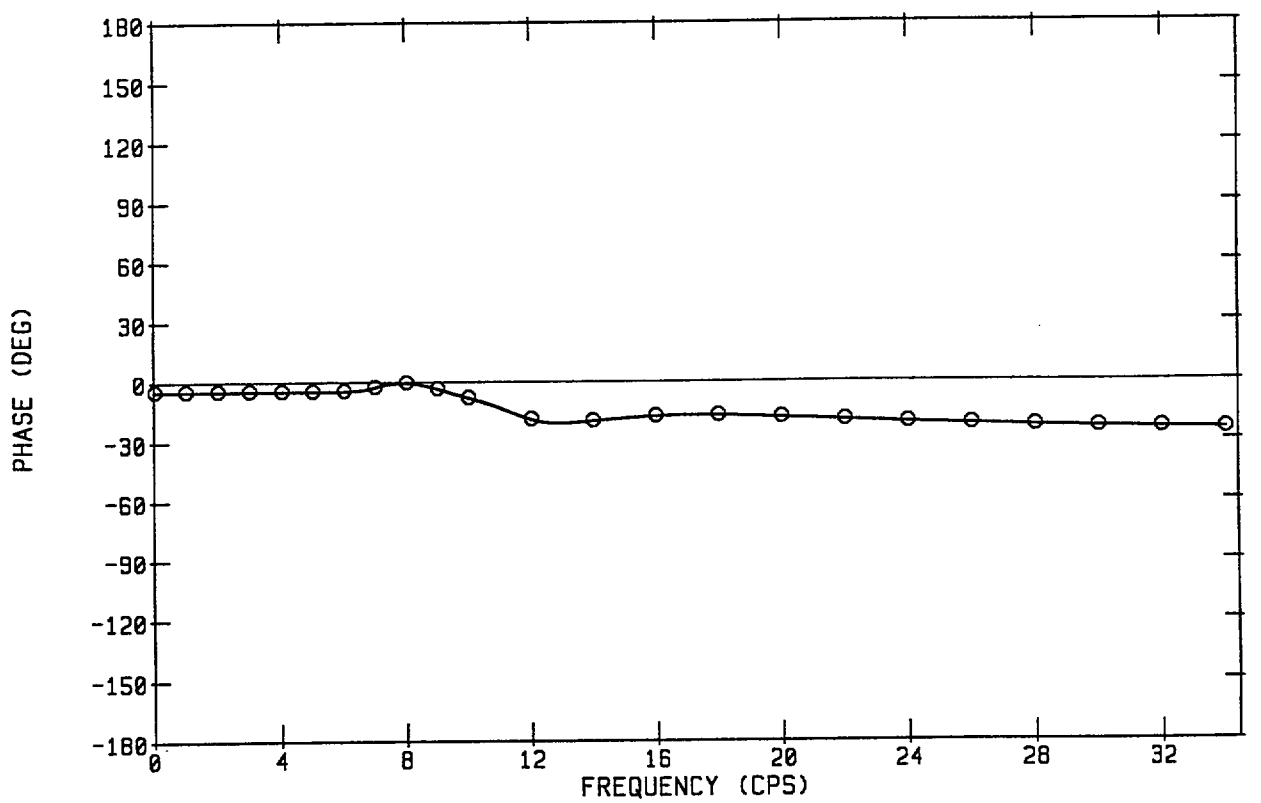
CALC. NO. G(P07)-2 REV. NO. 3

SHEET NO. 188

ve\G121BM-YY.INPI 4/ 3/ 1

B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

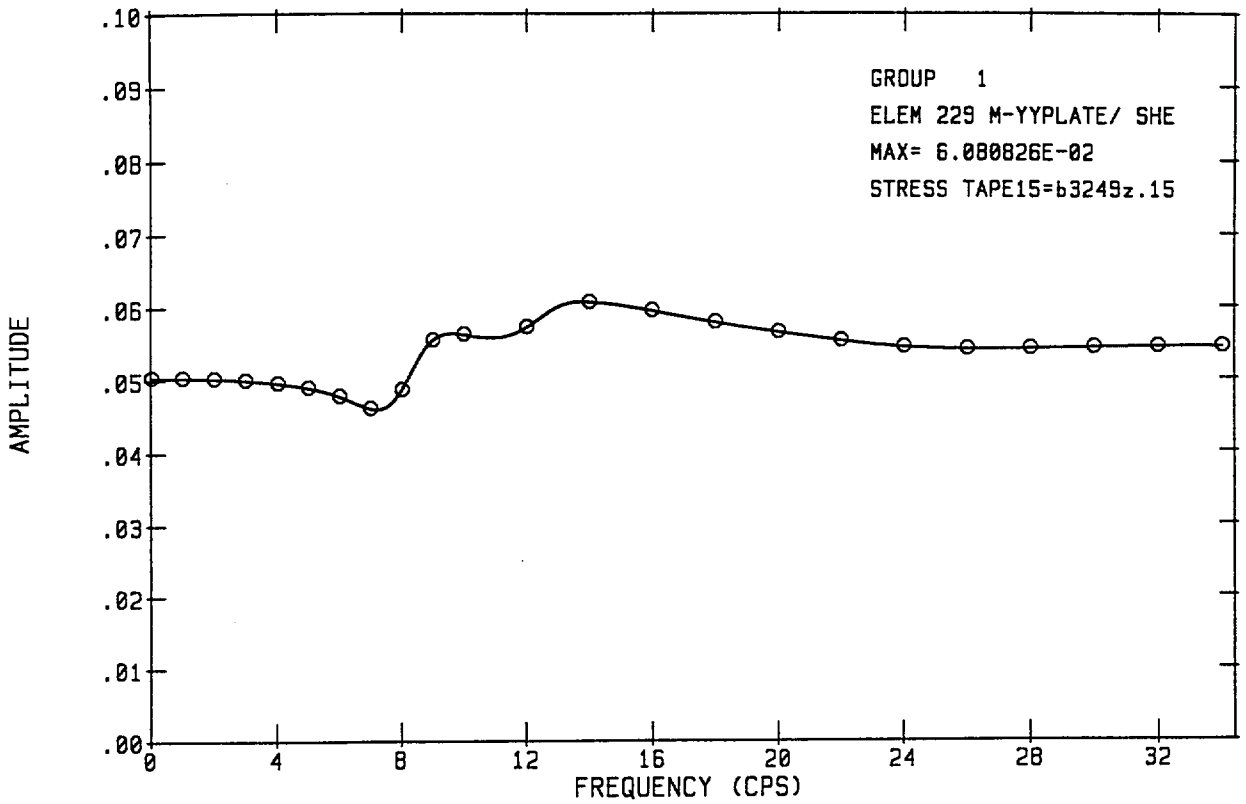


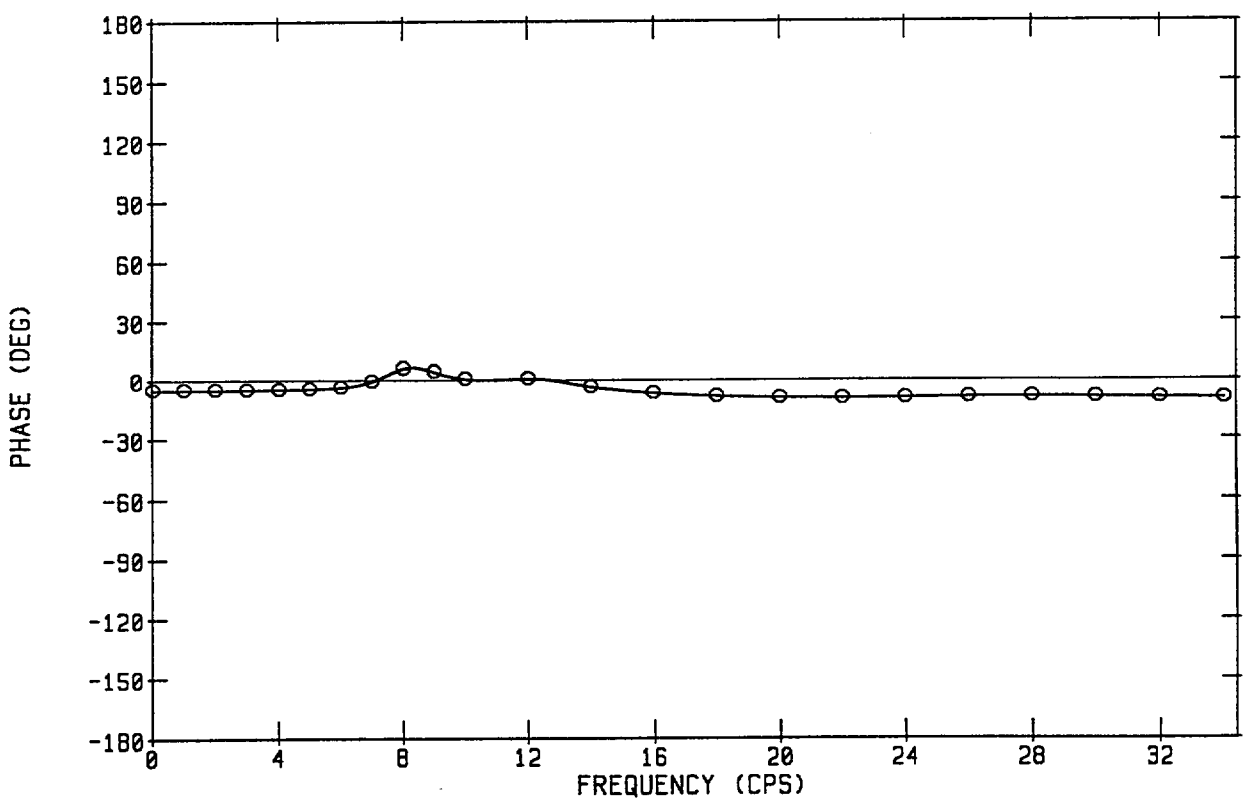


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK Aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 189

ve\G1229M-XX.INP1 4/ 3/ 1

B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

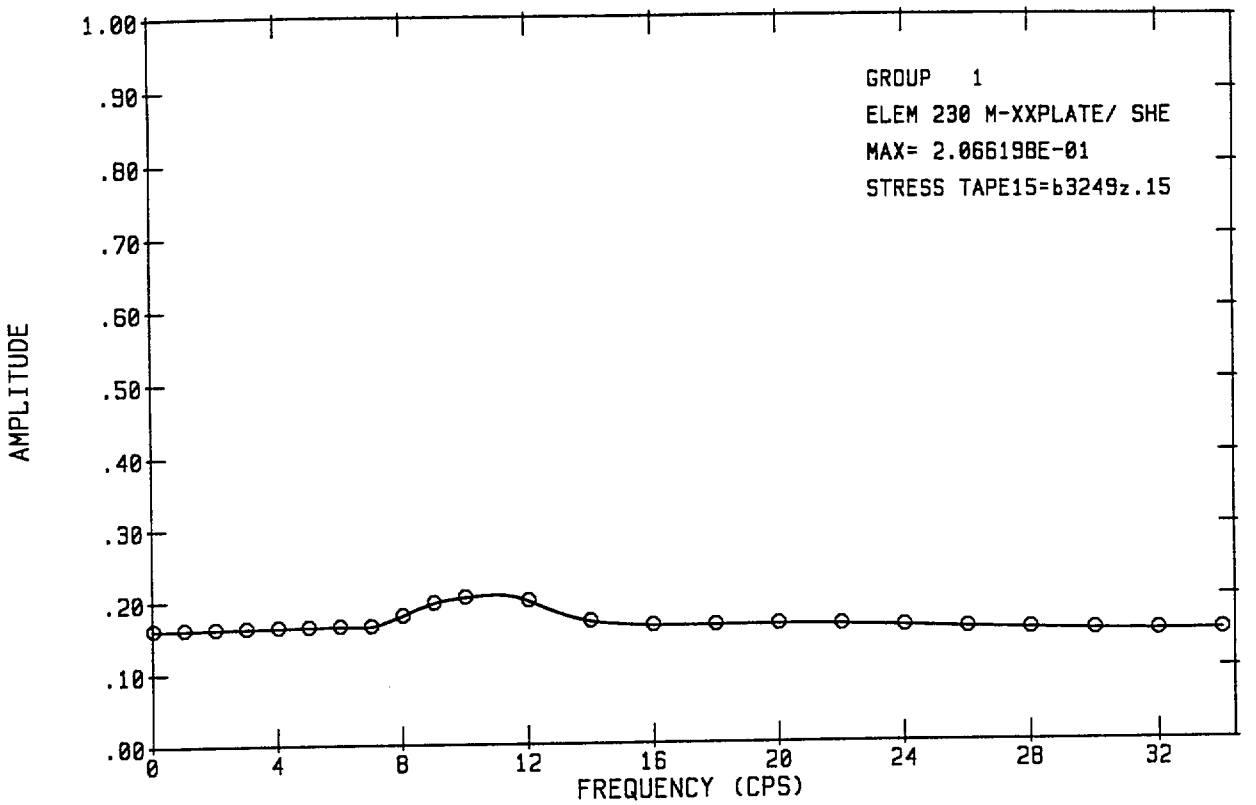


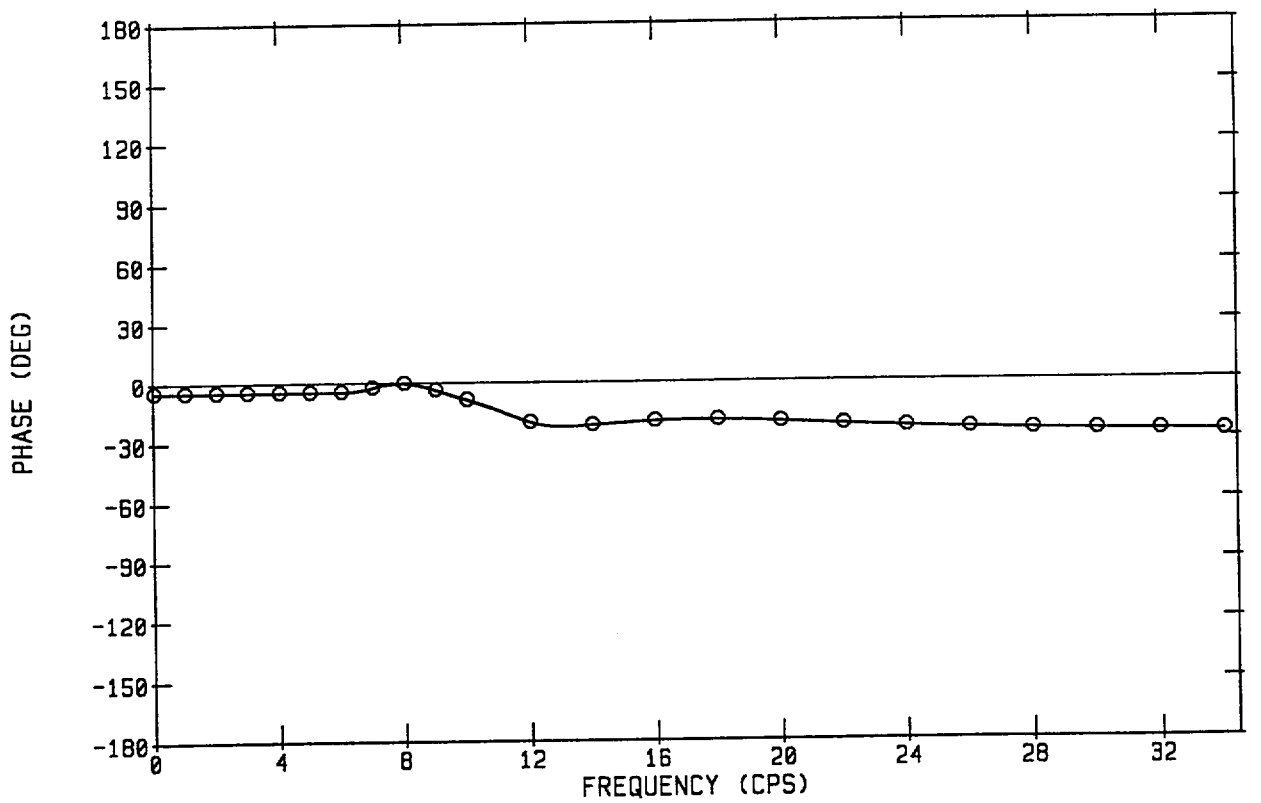


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 190

ve\G1229M-YY.INPI 4/ 3/ 1

B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

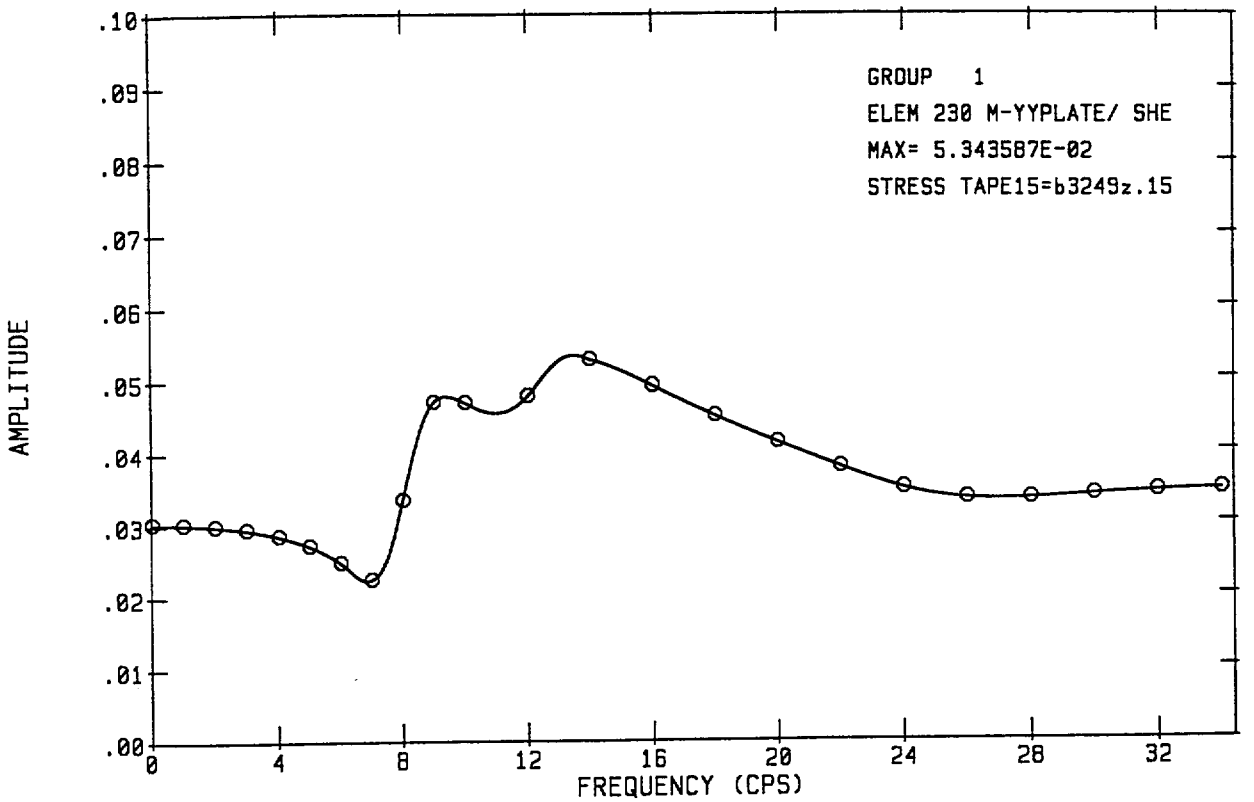


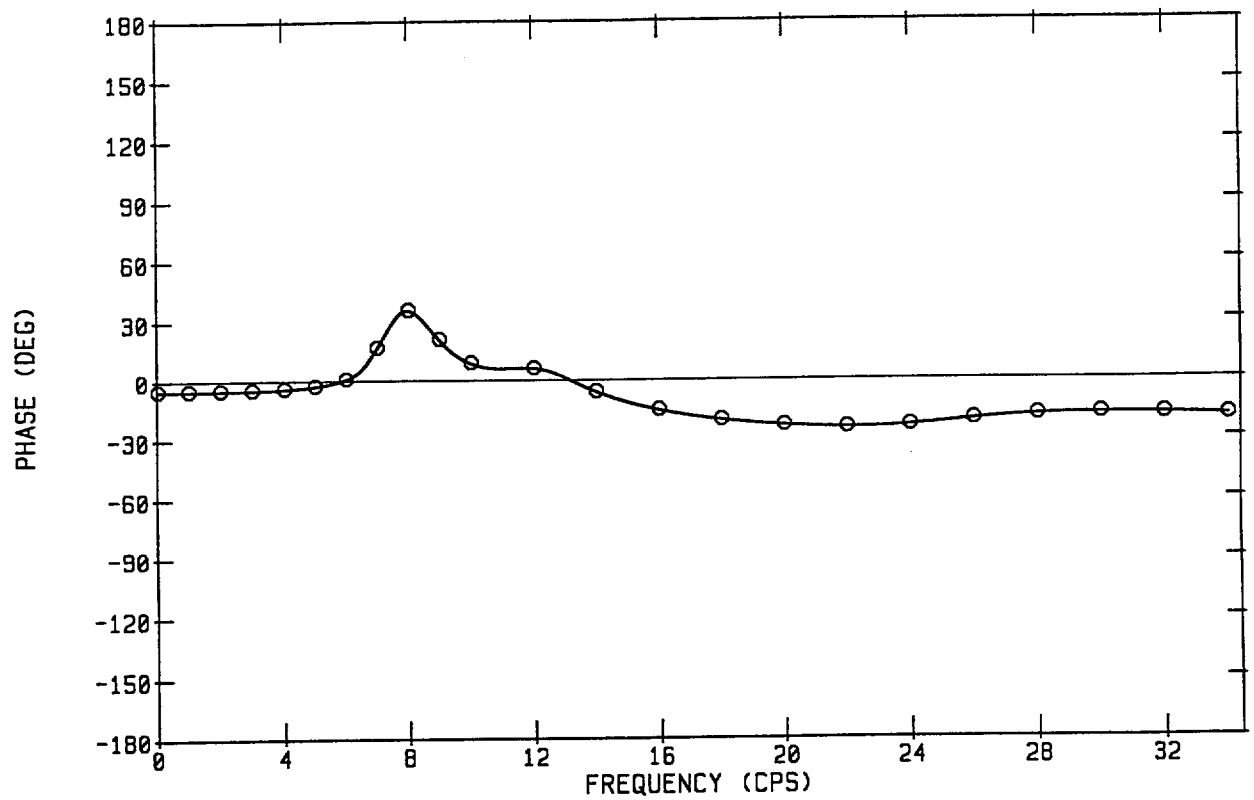


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK MM DATE 4/3/01
CALC. NO. G1P017)-2 REV. NO. 3
SHEET NO. 191

ve\G1230M-XX.INP1 4/ 3/ 1

B3249ZTD, BE, V2BEQ2.TH ON NODE 249 (K-FT)

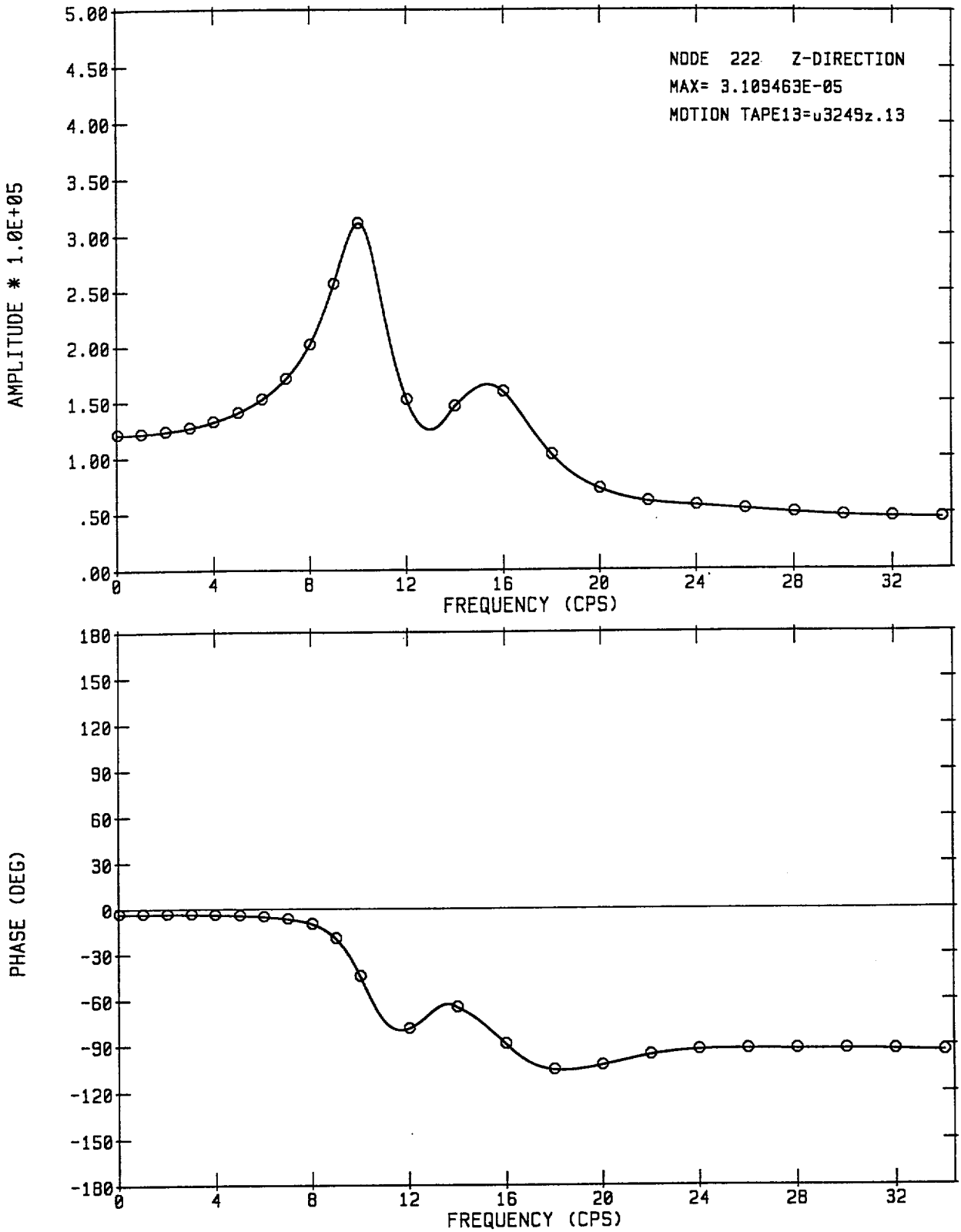




CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 192

ve\G1230M-YY.INPI 4/ 3/ 1

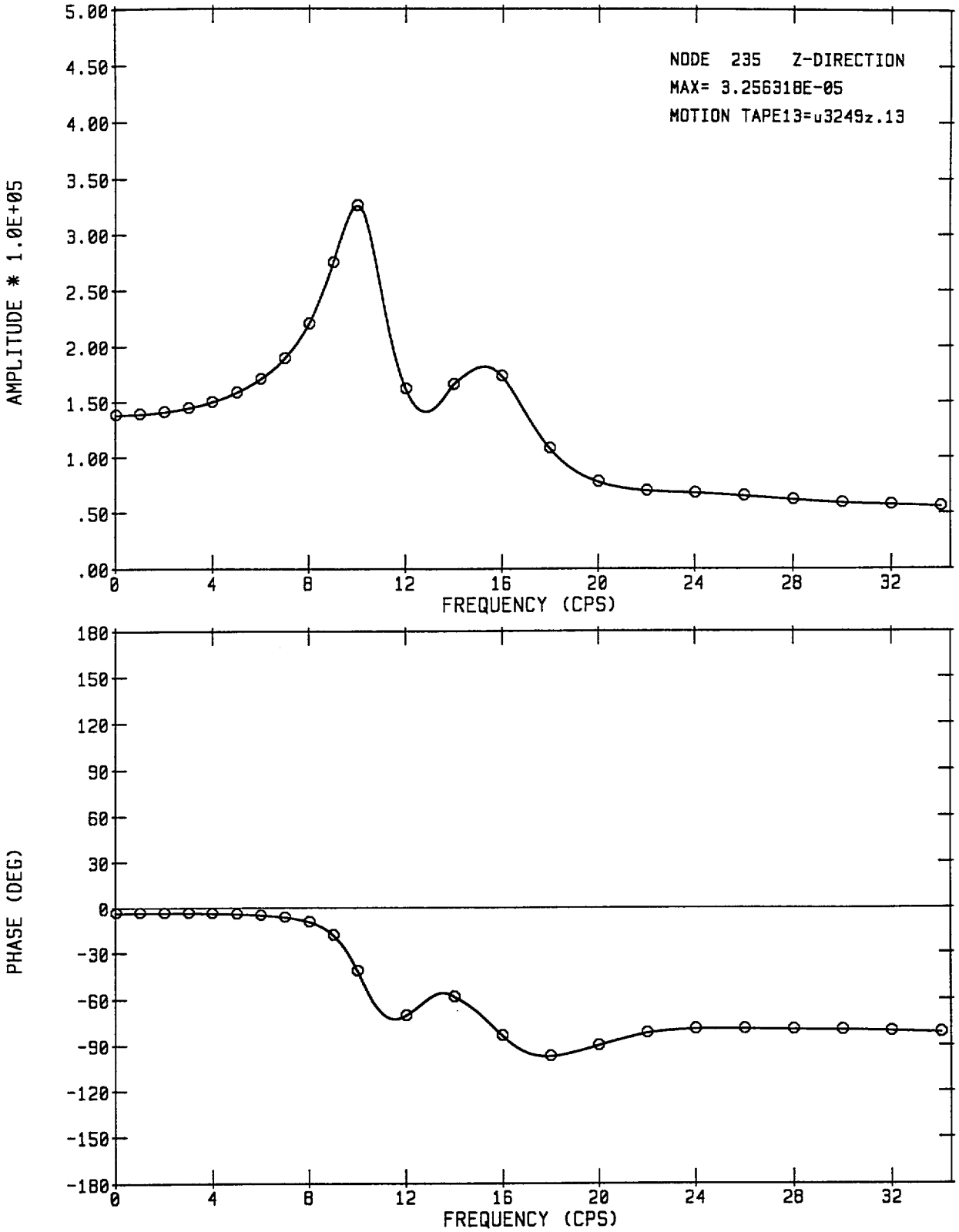
U3249ZOD, UB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK amw DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 193

ve\Gfz222Z.INP | 4/ 3/ 1

U3249ZOD, UB, V2BEQ2.TH ON NODE 249 (K-FT)



CEC JOB NO. 1101-000

BY DH DATE 4/3/01

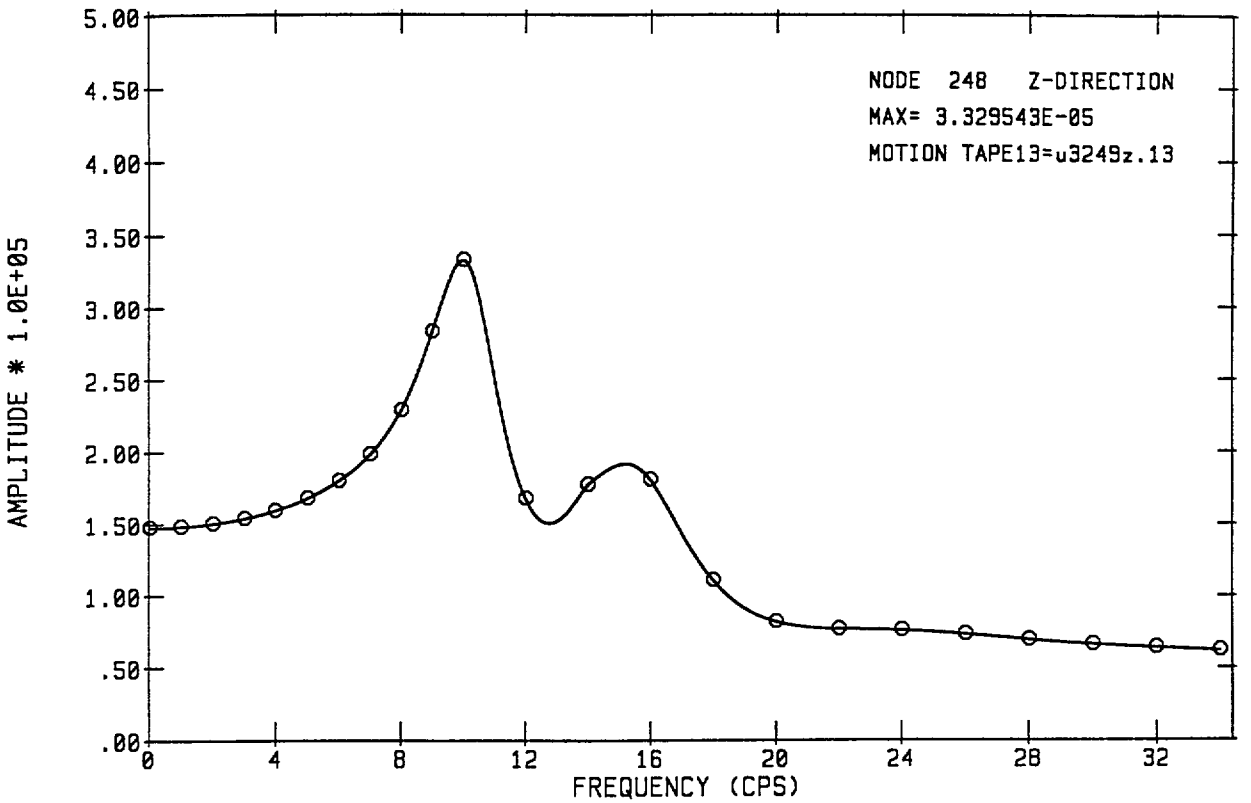
CHECK amm DATE 4/3/01

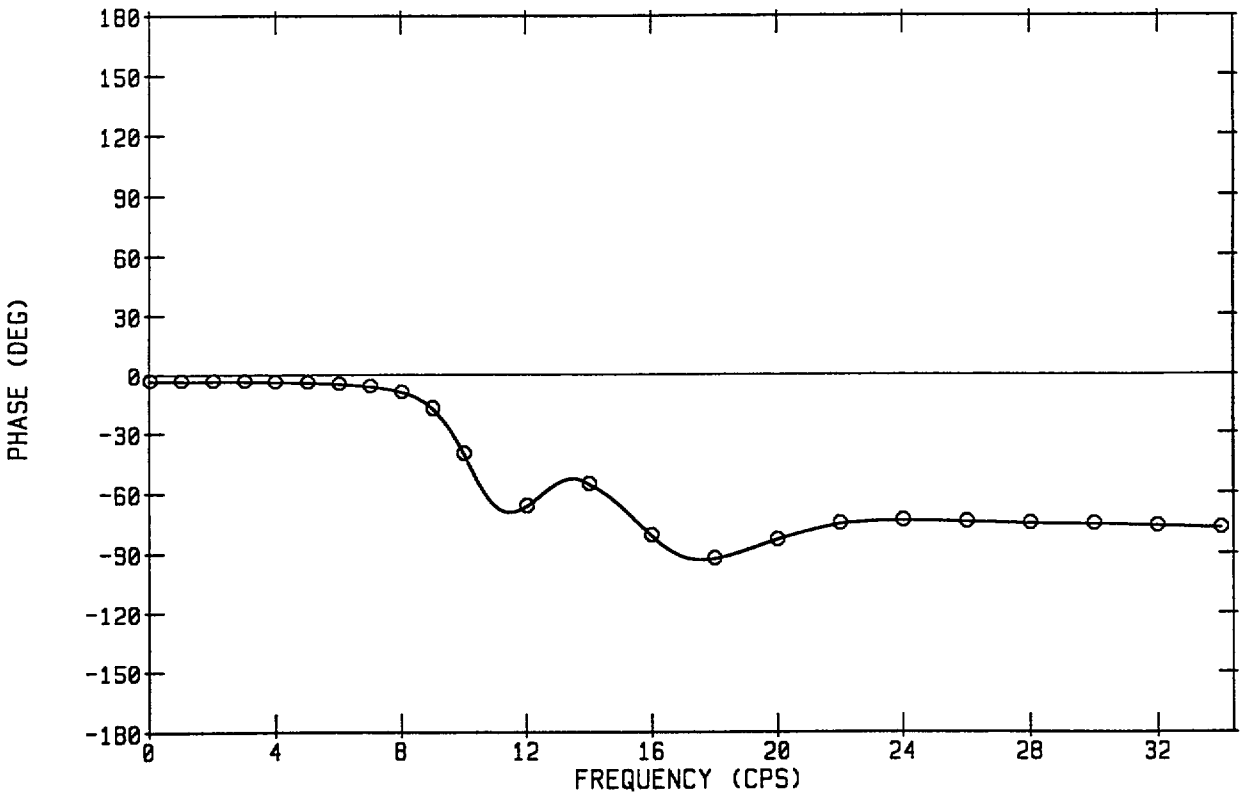
CALC. NO. G(P017)-2 REV. NO. 3

SHEET NO. 194

ve\Gfz235Z.INP | 4/ 3/ 1

U3249ZOD, UB, V2BEQ2.TH ON NODE 249 (K-FT)

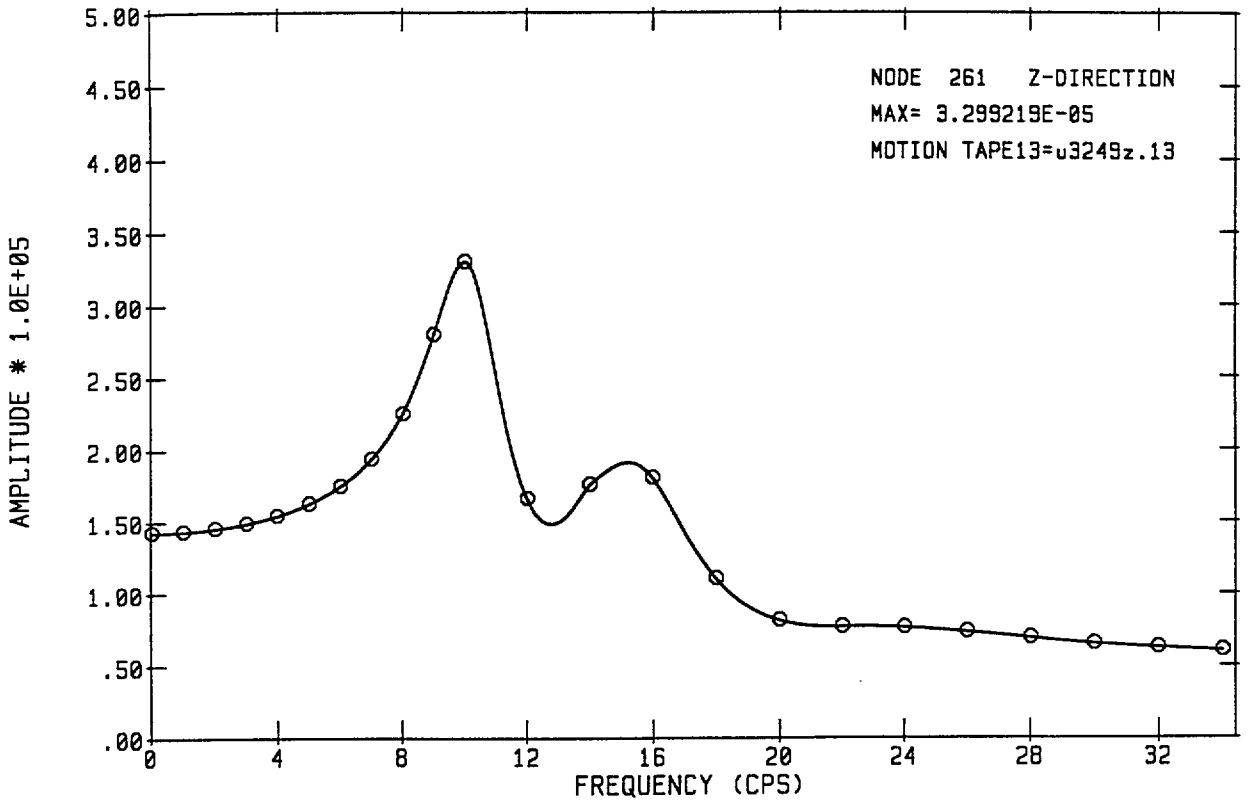


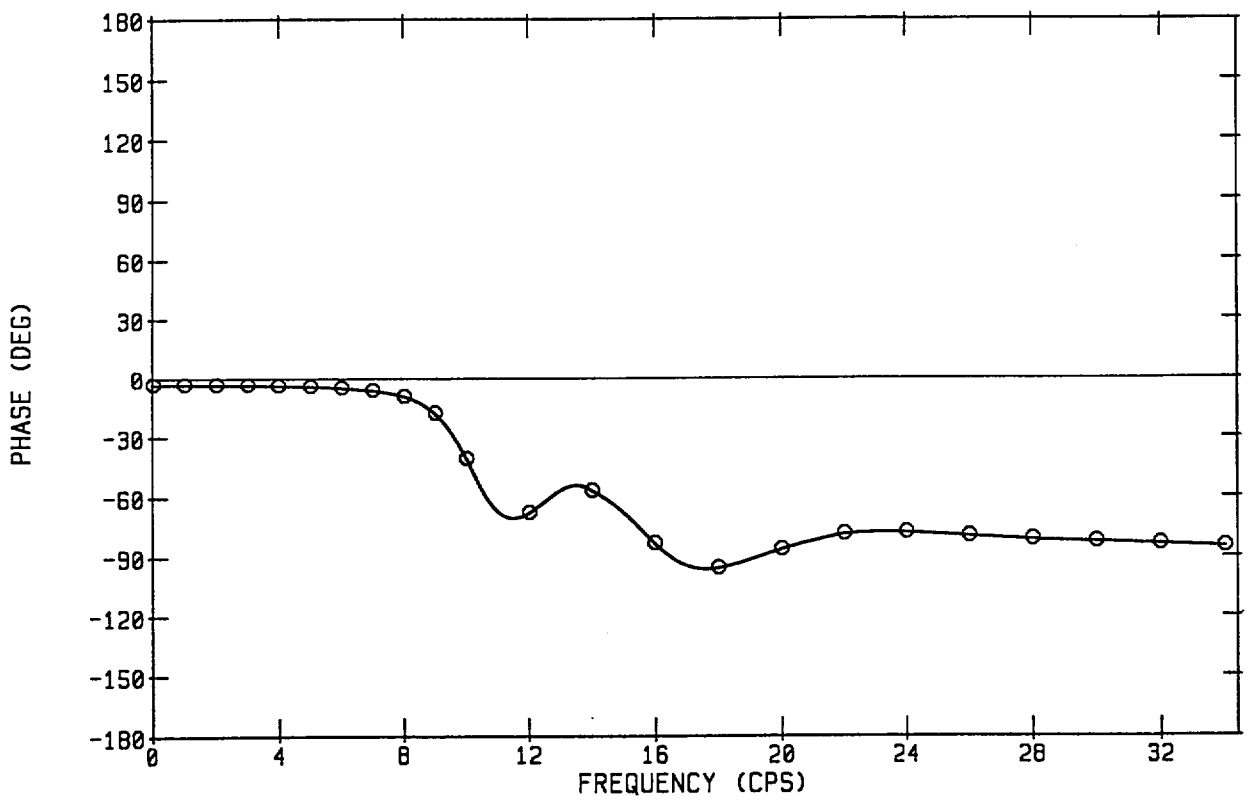


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. G(P017-2) REV. NO. 3
SHEET NO. 195

ve\Gfz24BZ.INP 1 4/ 3/ 1

U3249ZOD, UB, V2BEQ2.TH ON NODE 249 (K-FT)

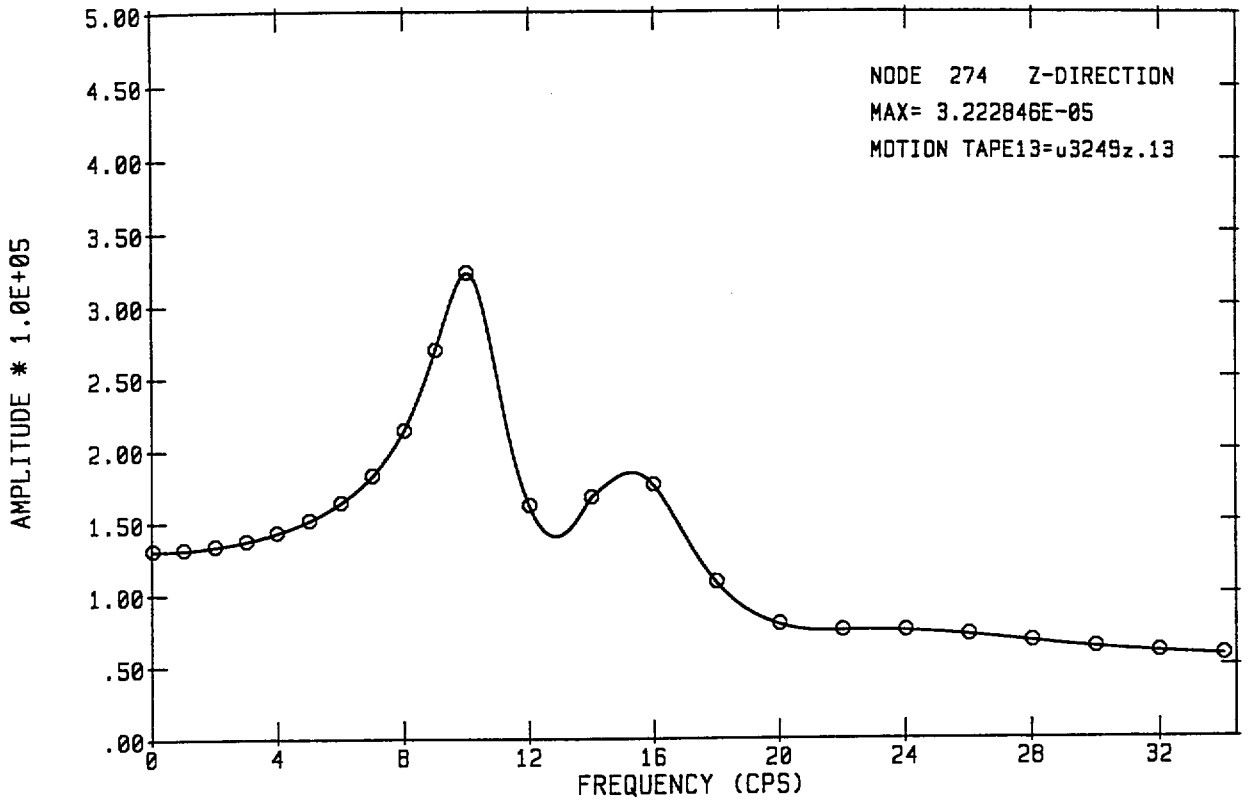


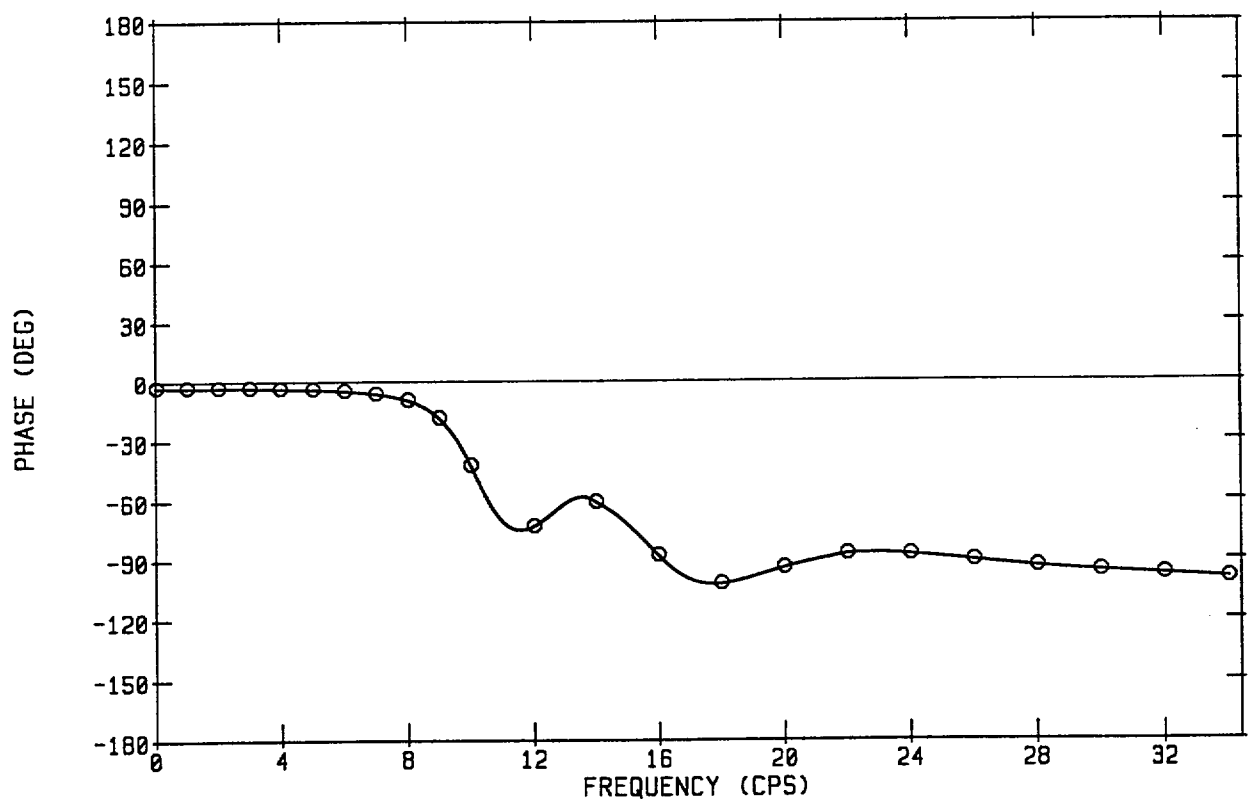


CEC JOB NO. 1101-000
BY DH DATE 4/3/01
CHECK amm DATE 4/3/01
CALC. NO. G(P017)-2 REV. NO. 3
SHEET NO. 196

ve\Gfz261Z.INP 1 4/ 3/ 1

U3249ZOD, UB, V2BEQ2.TH ON NODE 249 (K-FT)





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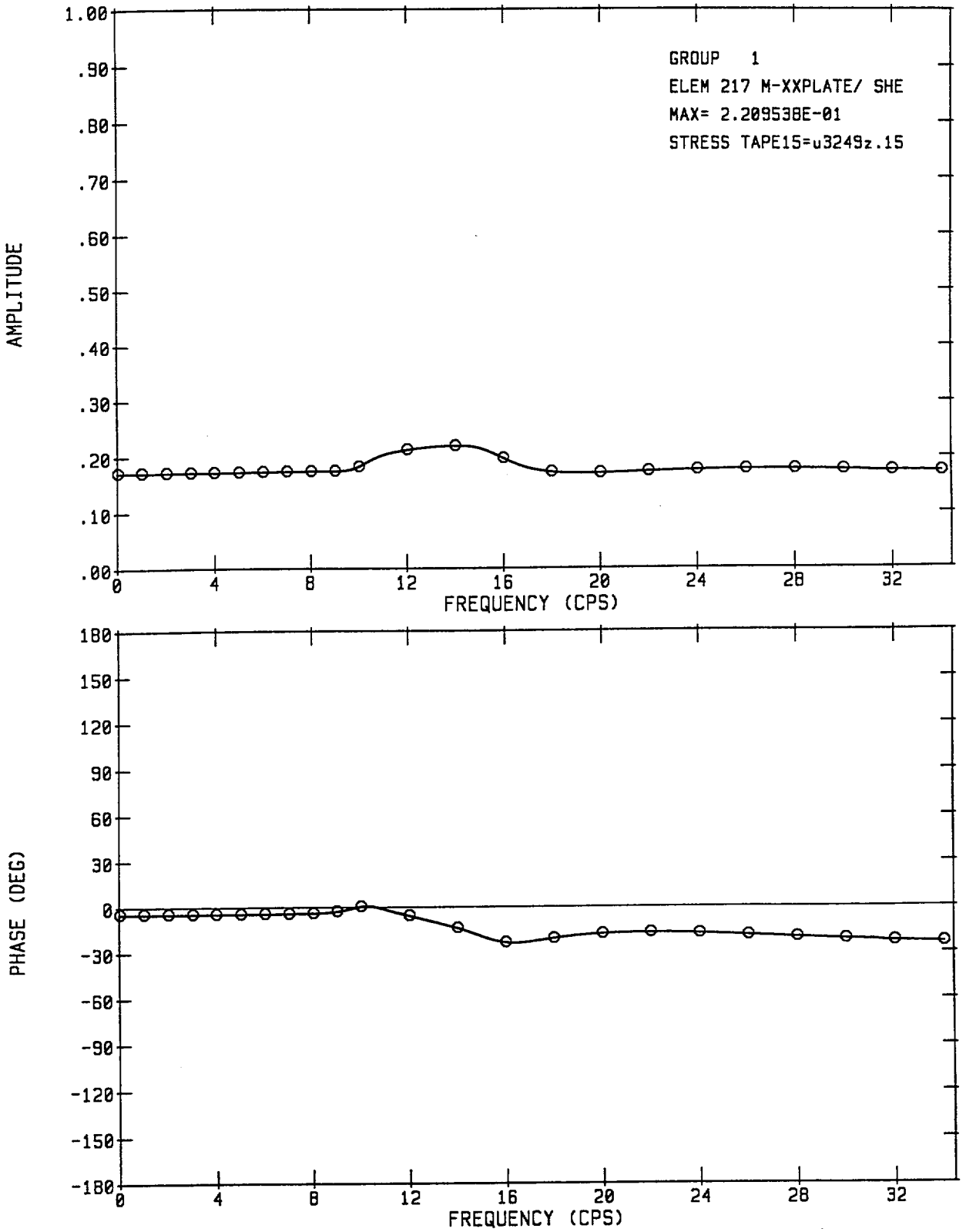
ve\Gfz274Z.INP | 4/ 3/ 1

U3249ZTD, UB, V2BEQ2.TH ON NODE 249 (K-FT)



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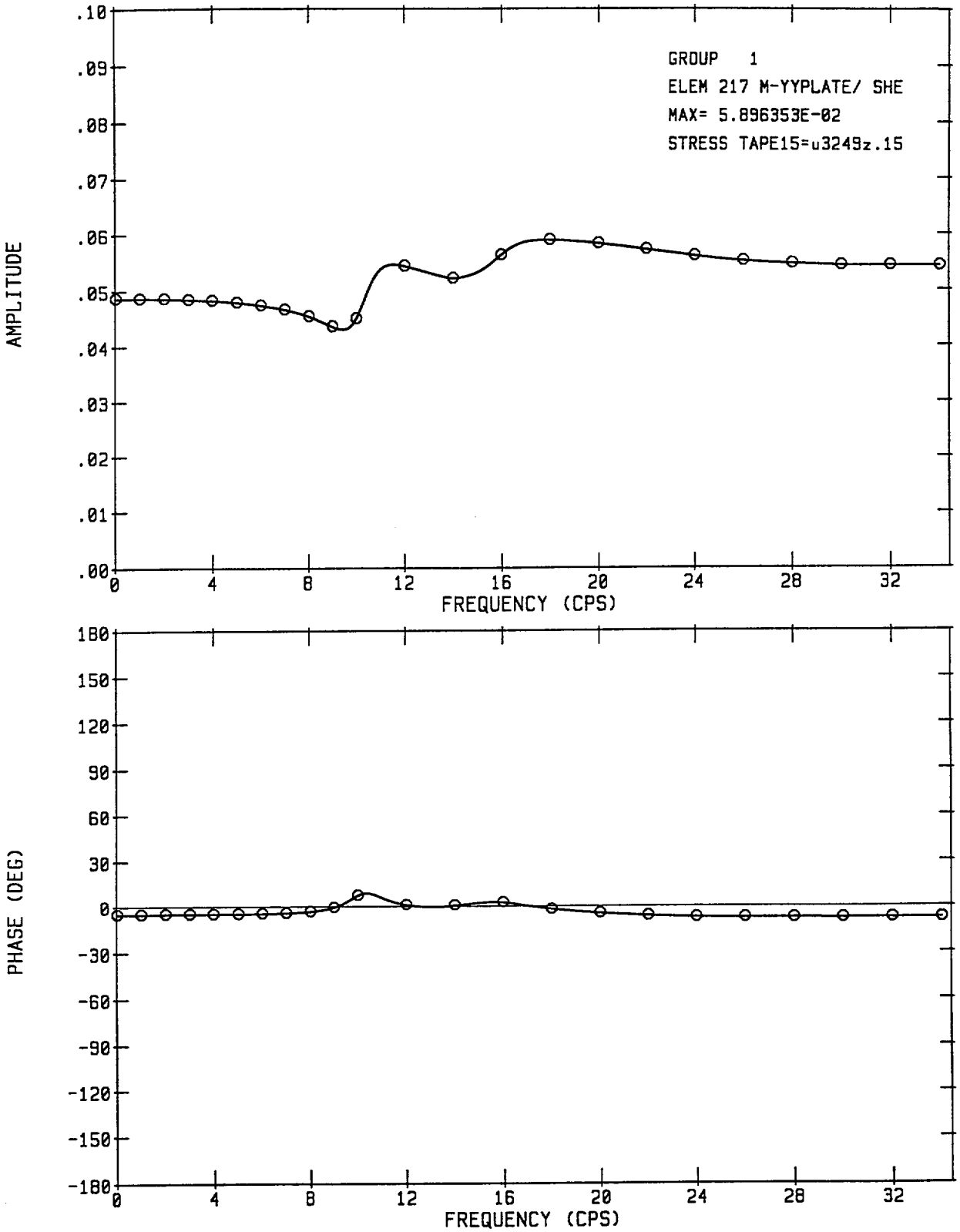
ve\G1217M-XX.INP1 4/ 3/ 1

U3249ZTD, UB, V2BEQ2.TH ON NODE 249 (K-FT)



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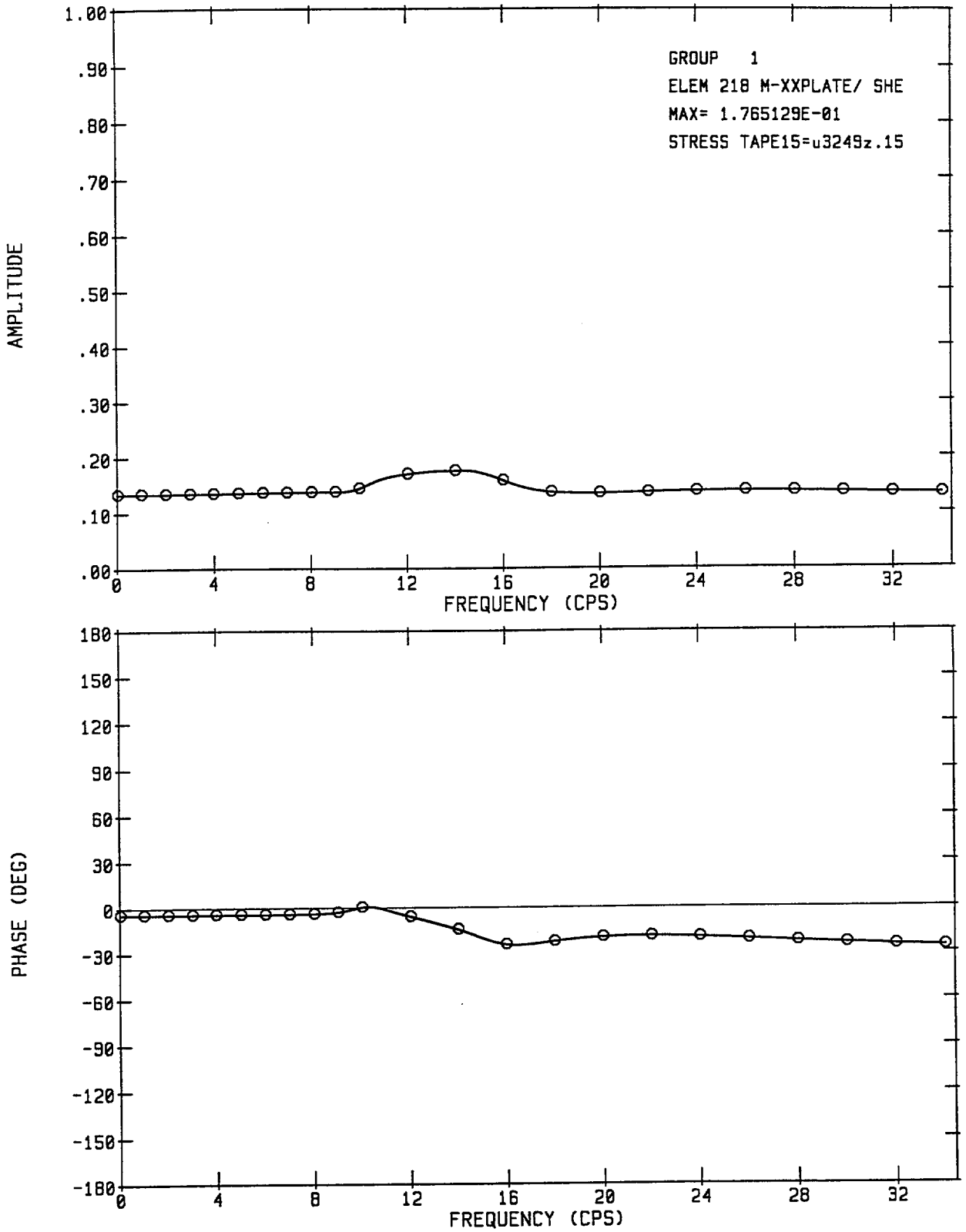

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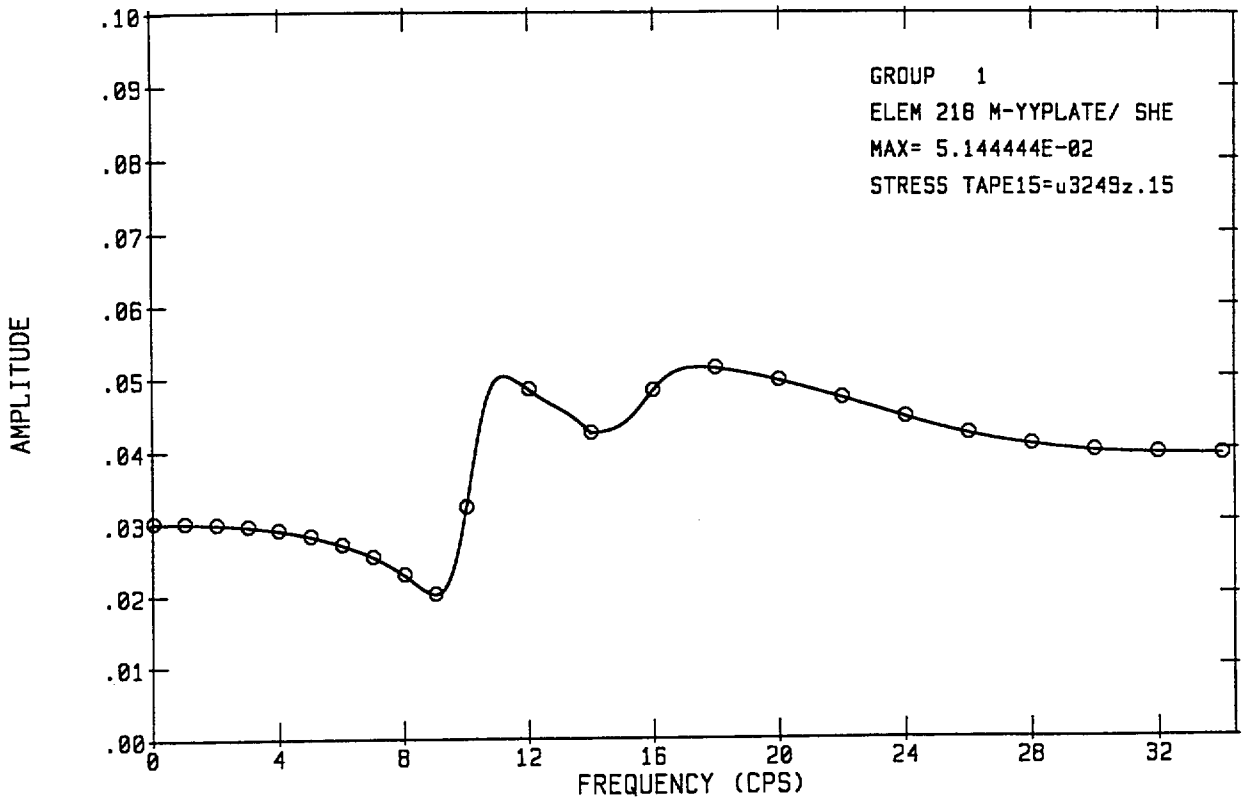

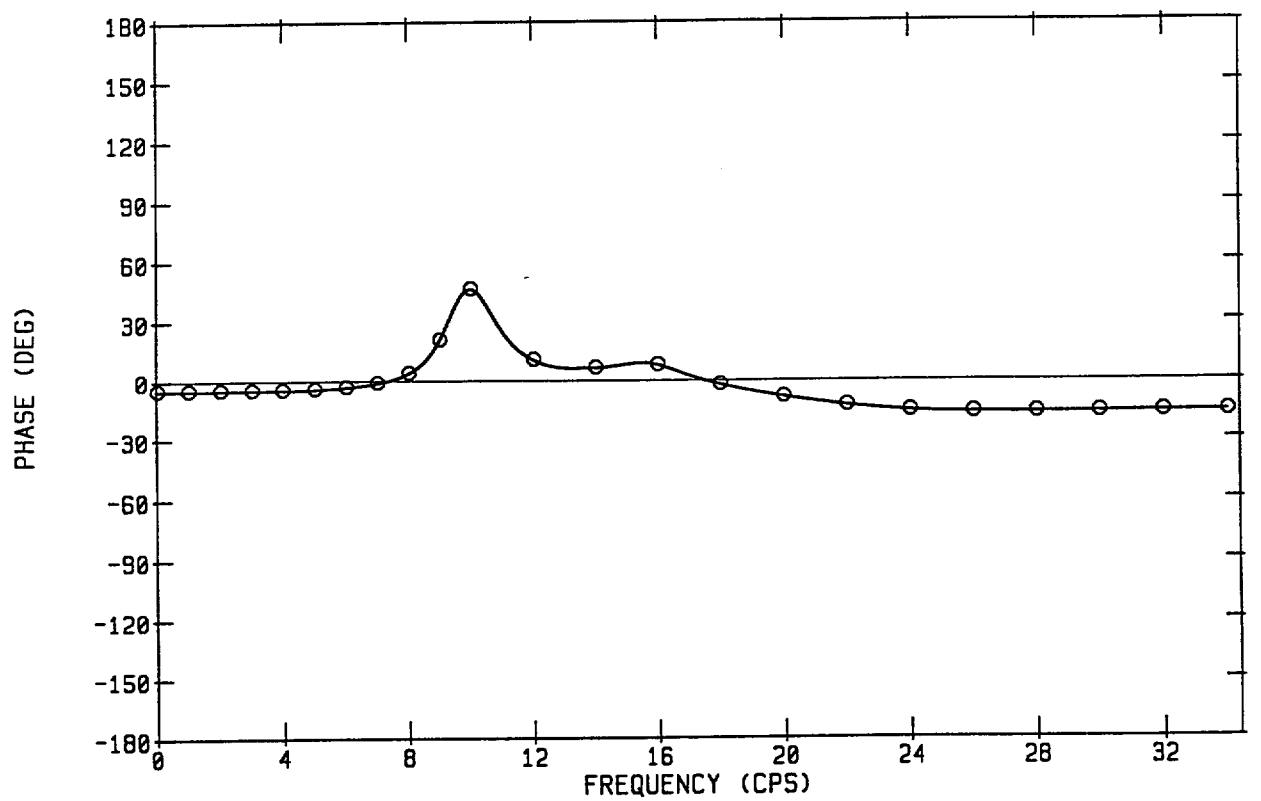

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BY DH DATE 4/3/01
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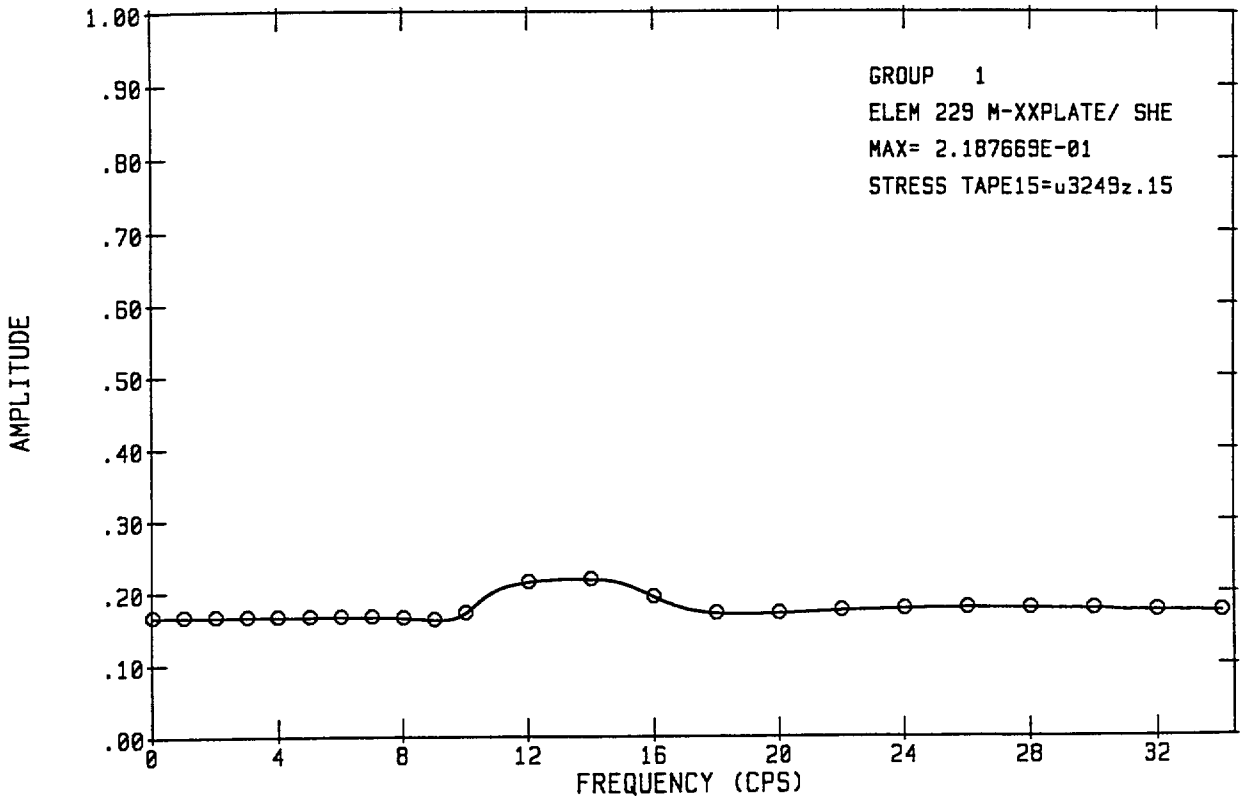

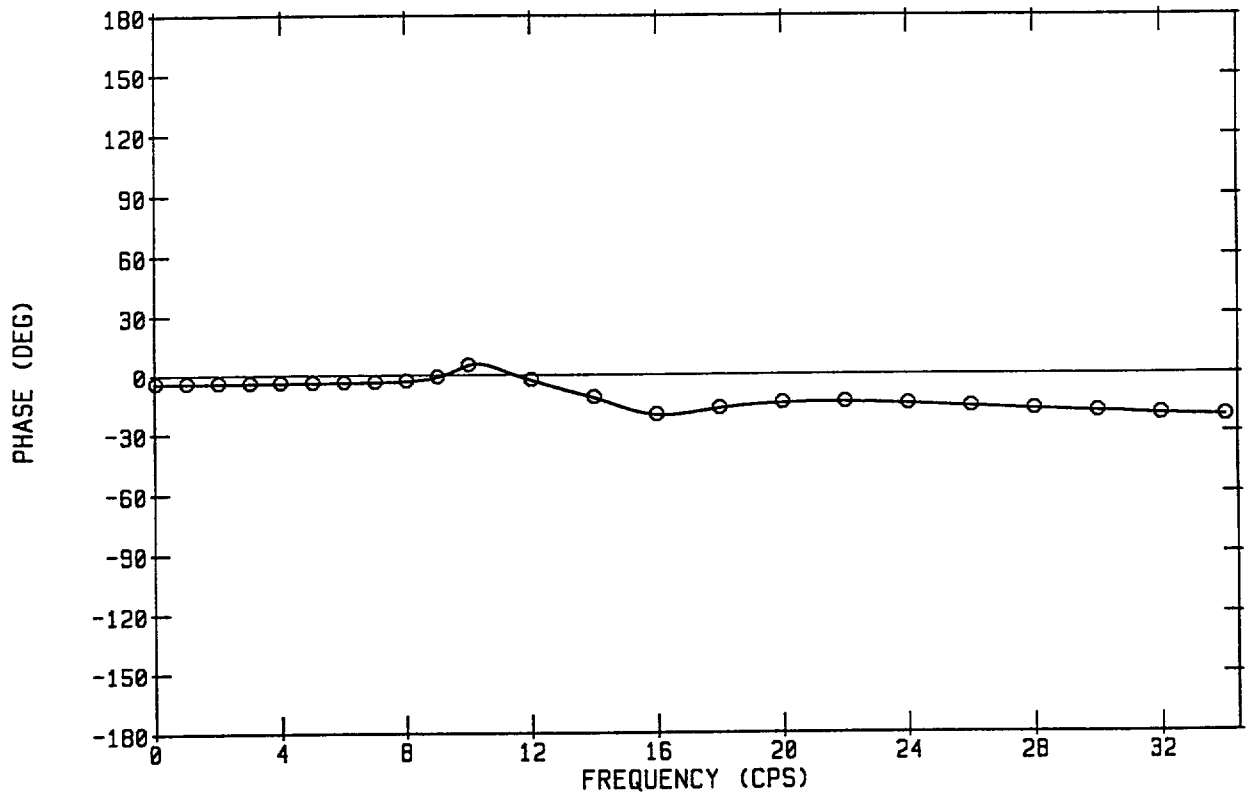

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BY DH DATE 4/3/01
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SHEET NO. 202

ve\G1229M-XX.INPI 4/ 3/ 1

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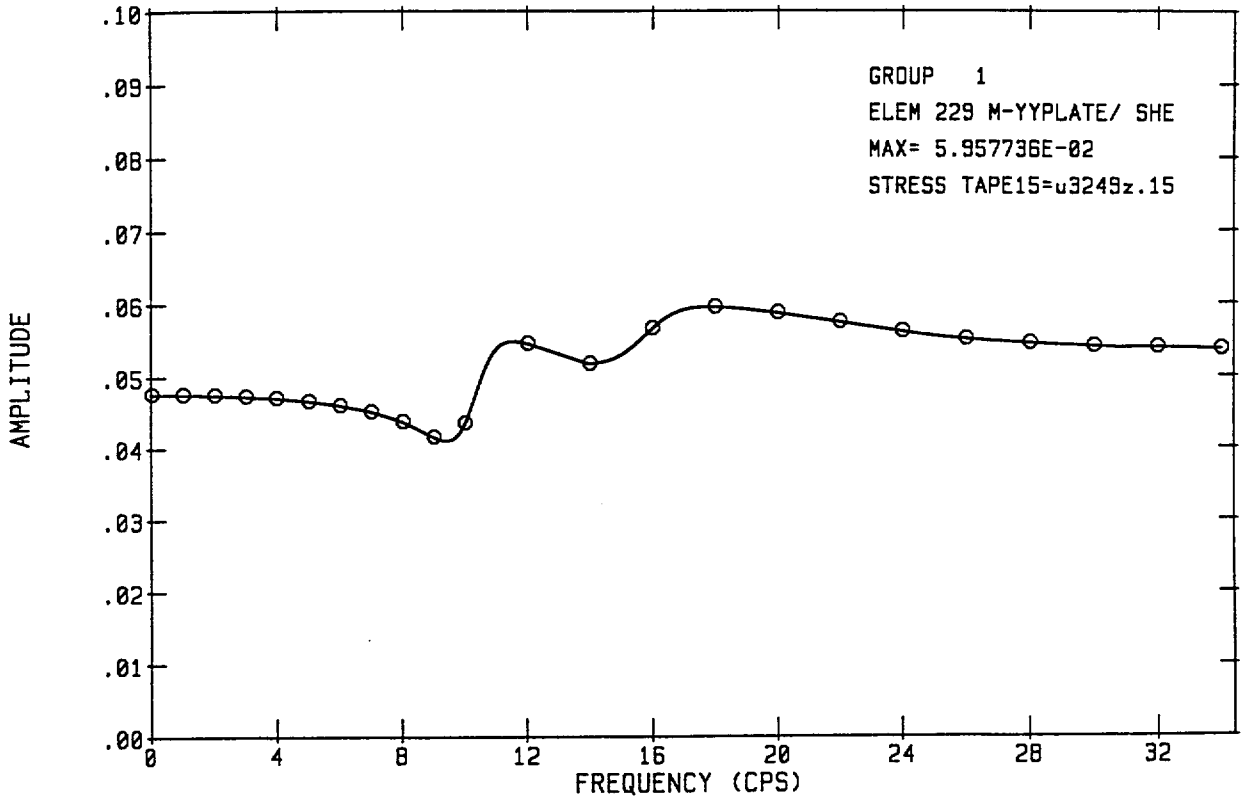

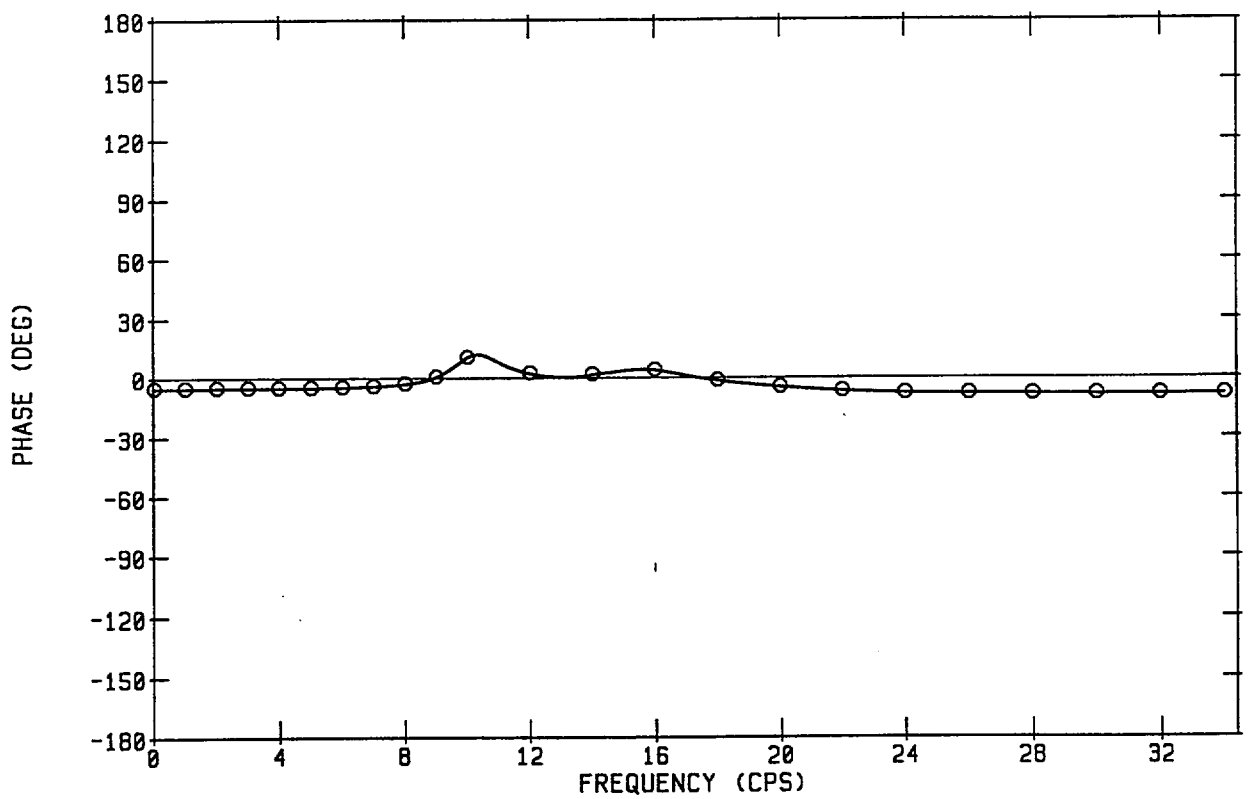

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BY DH DATE 4/3/01
CHECK AMM DATE 4/3/01
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SHEET NO. 203

ve\G1229M-YY.INPI 4/ 3/ 1

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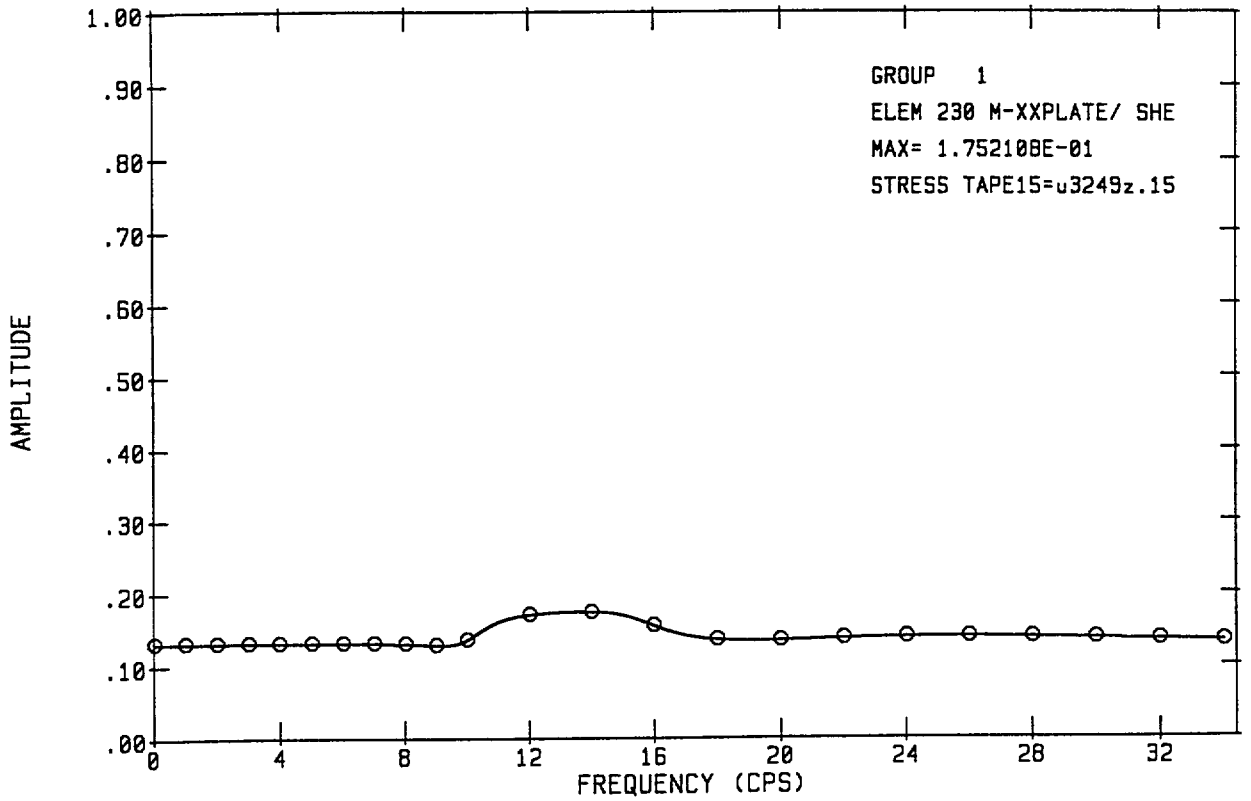

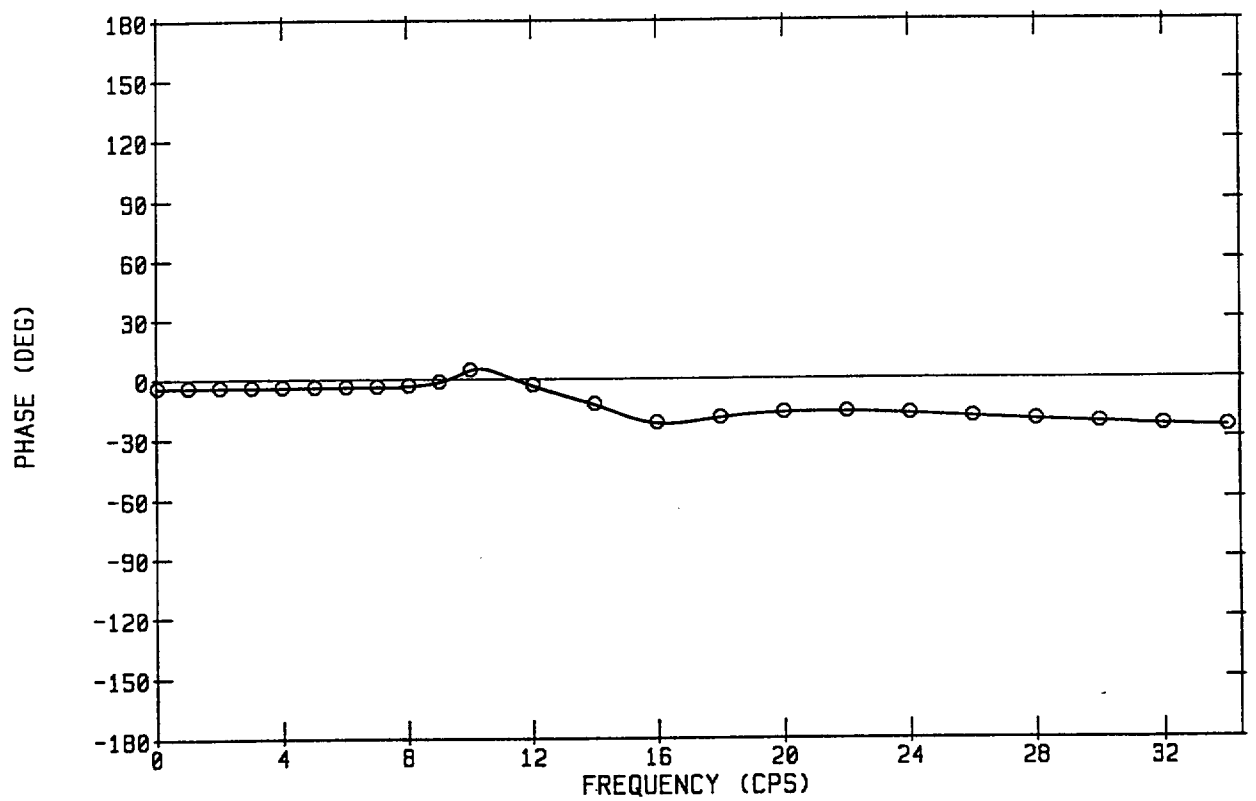

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BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
CALC. NO. 9(P017)-2 REV. NO. 3
SHEET NO. 204

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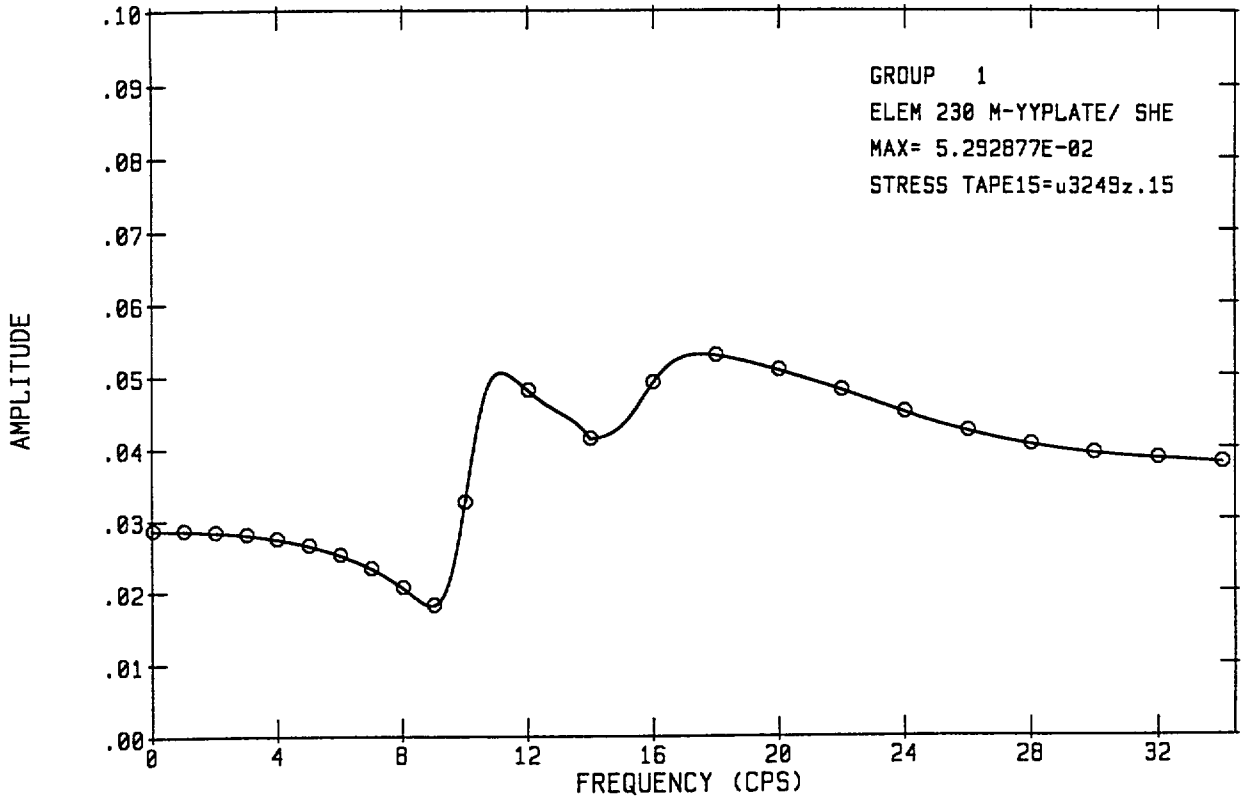
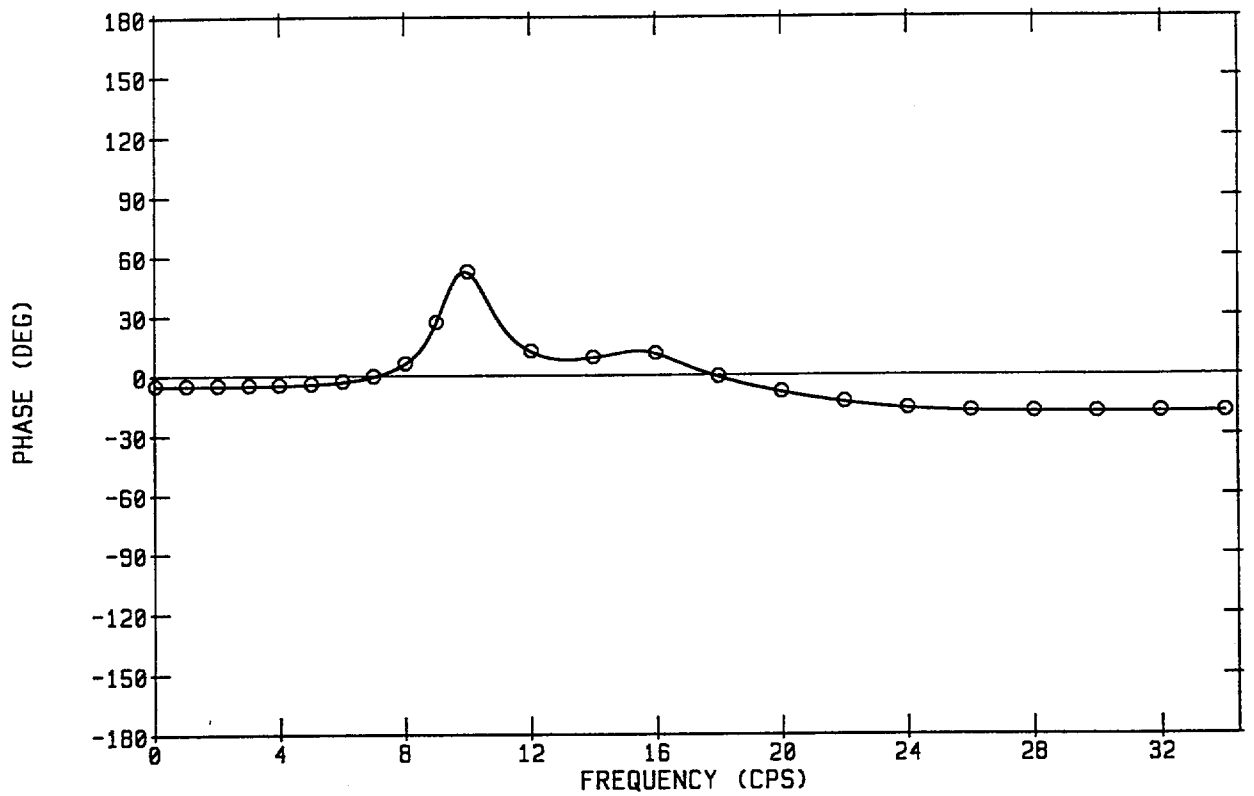
U3249ZTD, UB, V2BEQ2.TH ON NODE 249 (K-FT)





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BY DH DATE 4/3/01
CHECK aum DATE 4/3/01
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SHEET NO. 205

ve\G1230M-YY.INPI 4/ 3/ 1

5.2.5 COMPARISON OF CECSAP AND SASSI RESULTS

Results of the CECSAP and SASSI analyses, in terms of maximum displacements, maximum bending moments, and maximum shear force are shown and compared in Tables 5.2.5-1, 5.2.5-2, and 5.2.5-3 respectively. This comparison is performed for lower-bound, best-estimate, and upper-bound soil conditions as shown in the tables. The displacement time histories at selected nodes for SASSI and CECSAP are compared in Figs. 5.2.5-1 through 5.2.5-9 for lower-bound, best-estimate, and upper-bound soil conditions. Similarly, moment time histories for plate element 217 from SASSI and CECSAP are compared in Figs. 5.2.5-10 through 5.2.5-18. The printed input and output files for SASSI and CECSAP analyses are given in Attachment B.

The CECSAP dynamic models are the same as given in Section 5, except a single vertical force time history is applied at the second quadrant of the first cask (Node No. 249). Analyses are performed for the lower-bound, best-estimate, and upper-bound soil conditions.

The maximum displacements from CECSAP are consistent with the displacements from the SASSI. Maximum bending moments and maximum shear forces from CECSAP are consistently higher than the results from SASSI. Thus, the maximum bending moments and shear forces from CECSAP are used for the design of the pad.

CALCULATION SHEET

CALC. NO. G(PO17)-2 REV. NO. 3
ORIGINATOR Aum DATE 4/2/01 CHECKED DH DATE 4/2/01
PROJECT Private Fuel Storage Facility JOB NO. 1101-000
SUBJECT Storage Pad Analysis and Design SHEET NO. 207

Table 5.2.5-1

Maximum Vertical Displacements (ft) at Selected Nodes

Selected Node No.	Lower-Bound Properties			Best-Estimate Properties			Upper-Bound Properties		
	SASSI (A)	CECSAP (B)	% Diff. [(B)/(A)-1]100	SASSI (A)	CECSAP (B)	% Diff. [(B)/(A)-1]100	SASSI (A)	CECSAP (B)	% Diff. [(B)/(A)-1]100
144	0.0067	0.0058	-14	0.0055	0.0027	-51	0.0043	0.0014	-67
157	0.0076	0.0069	-9	0.0061	0.0035	-43	0.0047	0.0018	-61
170	0.0086	0.0084	-2	0.0069	0.0046	-34	0.0052	0.0026	-50
183	0.0099	0.0101	2	0.0078	0.0059	-25	0.0057	0.0036	-37
196	0.0114	0.0120	5	0.009	0.0076	-16	0.0066	0.0049	-26
209	0.013	0.0141	8	0.0102	0.0094	-8	0.0077	0.0065	-16
222	0.0164	0.0180	10	0.013	0.0134	3	0.0095	0.0099	5
235	0.0182	0.0202	11	0.0142	0.0153	8	0.0106	0.0117	10
248	0.0195	0.0220	13	0.0152	0.0165	9	0.0113	0.0130	15
261	0.0201	0.0230	14	0.0152	0.0172	13	0.0111	0.0127	14
274	0.0203	0.0236	16	0.015	0.0173	15	0.0104	0.0125	21
287	0.0202	0.0242	20	0.0146	0.0182	25	0.0096	0.0119	24
288	0.0184	0.0279	52	0.0132	0.0162	22	0.0087	0.0103	18
289	0.0161	0.0184	14	0.0112	0.0131	17	0.0074	0.0083	12
290	0.0138	0.0155	12	0.0096	0.0109	13	0.0063	0.0062	-2
291	0.0116	0.0128	10	0.0082	0.0086	5	0.0052	0.0048	-8
292	0.0098	0.0120	23	0.0067	0.0069	4	0.0043	0.0034	-20
293	0.0083	0.0085	3	0.0057	0.0057	1	0.0038	0.0028	-25
294	0.0069	0.0070	1	0.0049	0.0047	-4	0.0031	0.0023	-26

Notes: The displacements obtained from CECSAP at nodes near application of load (the pad interfaced-forcing function) at Node 249, are about 10% higher than those obtained from SASSI. However, the displacements obtained from CECSAP at nodes away from application of the load, which have relatively smaller magnitude than those at nodes near the application of load, are somewhat lower than those obtained from SASSI. For location of nodes selected in this Table, see Fig. 5.1-1.

See Attachment B for SASSI and CECSAP comparison results.

Table 5.2.5-2

Maximum Bending Moment (k-ft/ft) for Selected Elements

Selected Element No.	Lower-Bound Prop. SASSI (A)	Lower-Bound Prop. CECSAP (B)	Lower-Bound Prop. % Diff. [(B)/(A)-1]100	Best-Est. Prop. SASSI (A)	Best-Est. Prop. CECSAP (B)	Best-Est. Prop. % Diff. [(B)/(A)-1]100	Upper-Bound Prop. SASSI (A)	Upper-Bound Prop. CECSAP (B)	Upper-Bound Prop. % Diff. [(B)/(A)-1]100
Mxx (about Y-axis)									
217	40.2	75.4	88	39.4	75.3	91	37.6	75.0	99
218	27.1	39.8	47	28.5	40.0	40	28.0	40.2	43
229	39.7	75.1	89	39.1	75.0	92	37.4	74.8	100
230	26.0	39.4	51	27.8	39.7	43	27.7	39.9	44
Myy (about X-axis)									
217	175.9	294.8	68	157.9	286.8	82	134.9	272.4	102
218	141.0	227.8	62	126.1	221.0	75	106.8	208.9	96
229	173.1	305.8	77	155.6	297.9	91	132.4	283.7	114
230	139.2	239.3	72	124.1	232.6	87	105.3	220.4	109

Note: See Attachment B for SASSI and CECSAP comparison results.

Table 5.2.5-3

Shear Forces (k/ft) for Selected Elements (x-dir)

Selected Element No.	Lower-Bound Prop. SASSI (A)	Lower-Bound Prop. CECSAP (B)	Lower-Bound Prop. % Diff. [(B)/(A)-1]100	Best-Est. Prop. SASSI (A)	Best-Est. Prop. CECSAP (B)	Best-Est. Prop. % Diff. [(B)/(A)-1]100	Upper-Bound Prop. SASSI (A)	Upper-Bound Prop. CECSAP (B)	Upper-Bound Prop. % Diff. [(B)/(A)-1]100
217-218	14.7	28.3	92	13.4	27.8	107	11.9	26.8	126
229-230	14.3	28.1	96	13.3	27.6	107	11.4	26.7	134

$S_{xx} = (M_{yy1} - M_{yy2}) / L$

$L = 2.37$ ft

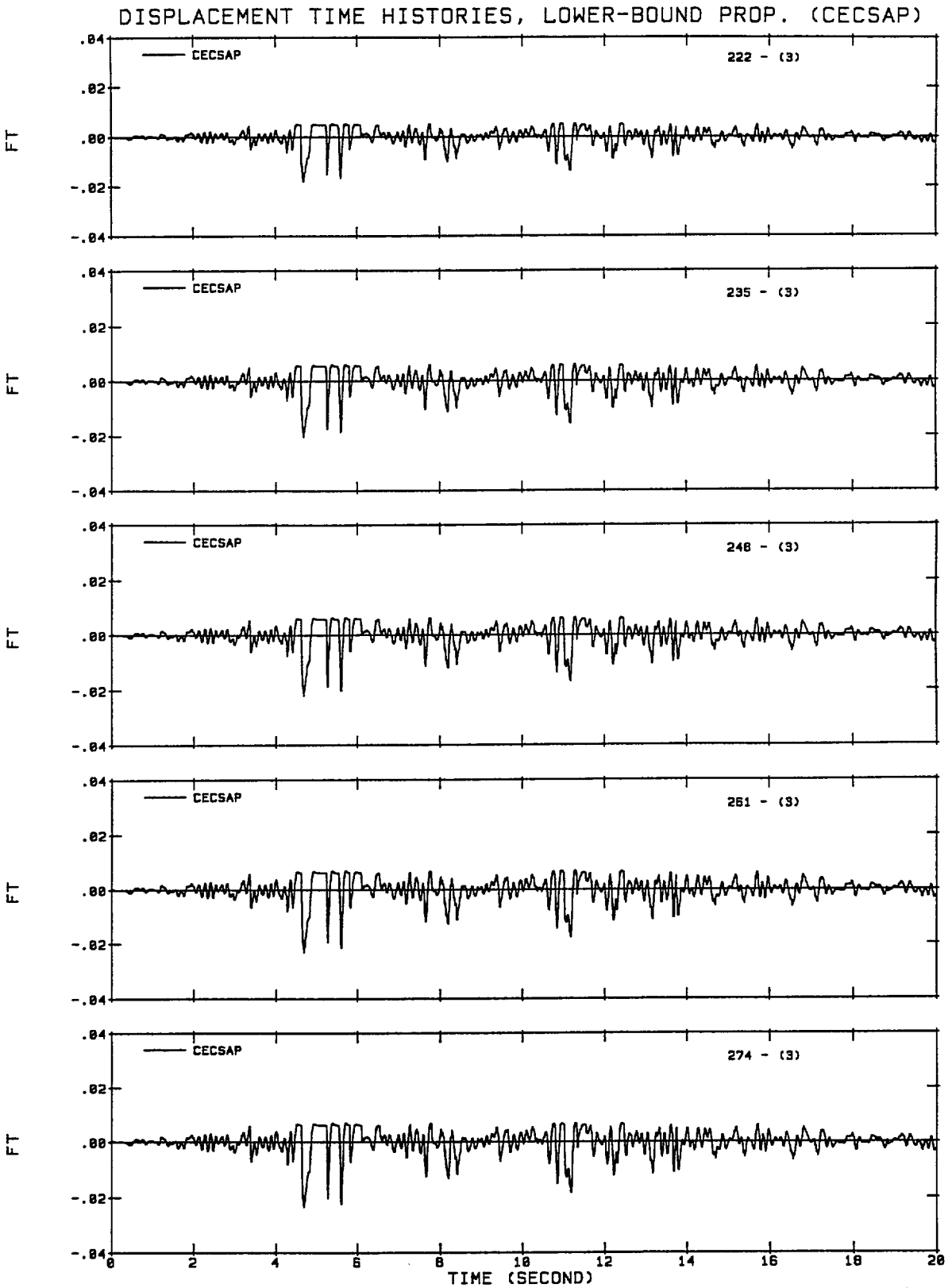

Fig. 5.2.5-1

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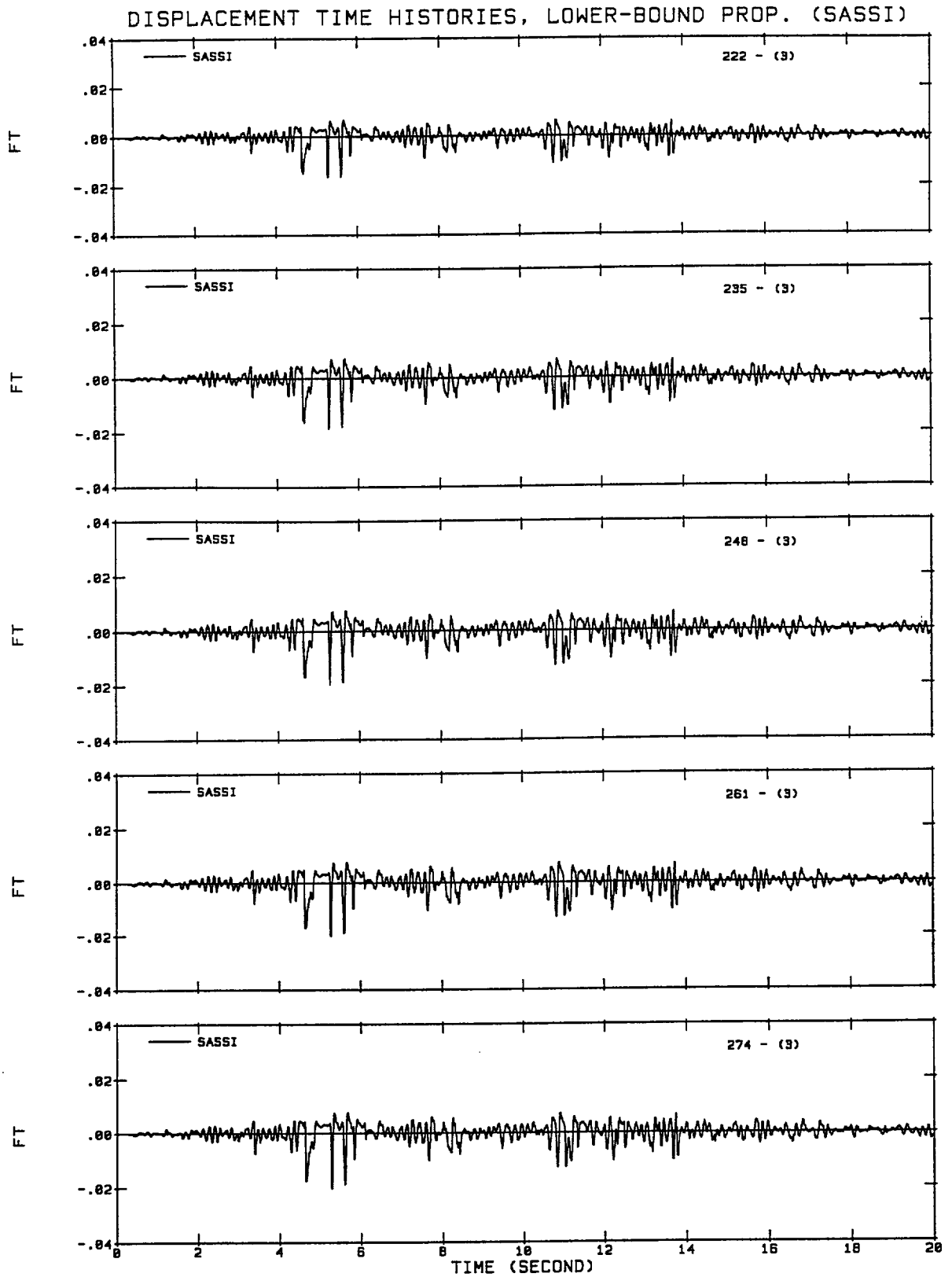

Fig. 5.2.5-2

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CHECK DH	DATE 4/2/01
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DISPLACEMENT TIME HISTORIES, LOWER-BOUND PROP. (CECSAP vs SASSI)

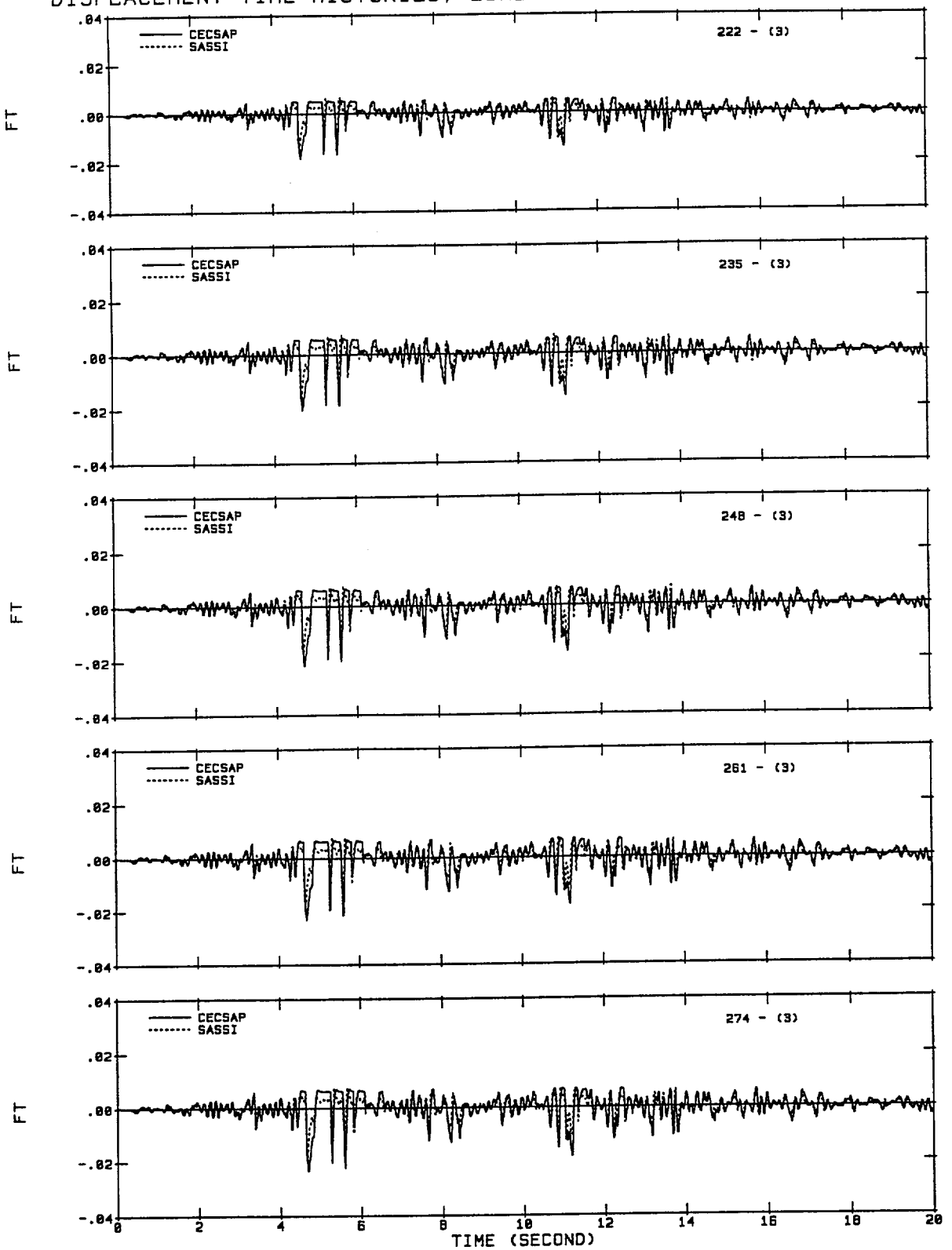

Fig. 5.2.5-3

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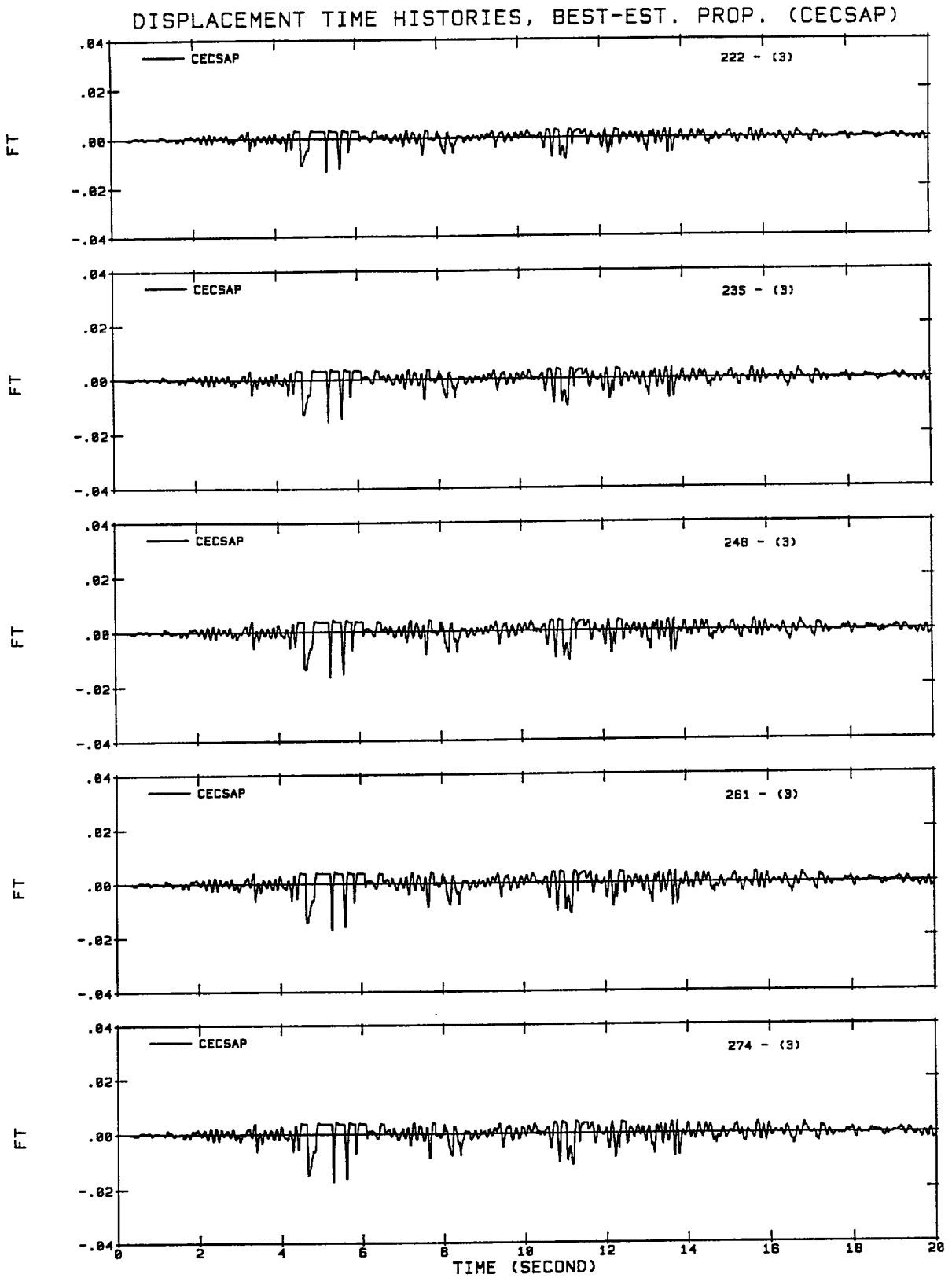

Fig. 5.2.5-4

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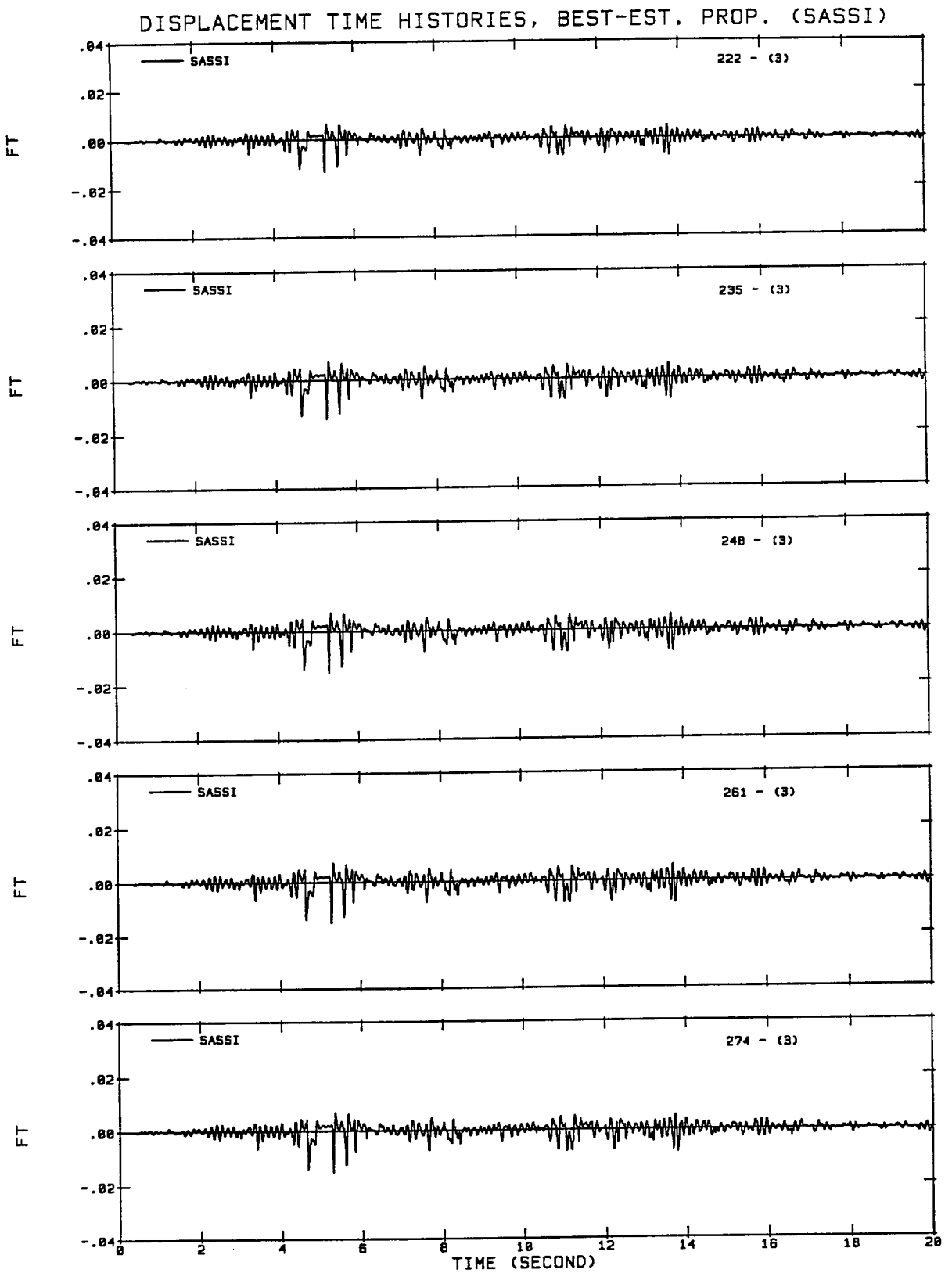

Fig. 5.2.5-5

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BY aum	DATE 4/2/01
CHECK DH	DATE 4/2/01
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SHEET NO. 213	

DISPLACEMENT TIME HISTORIES, BEST-EST. PROP. (CECSAP vs SASSI)

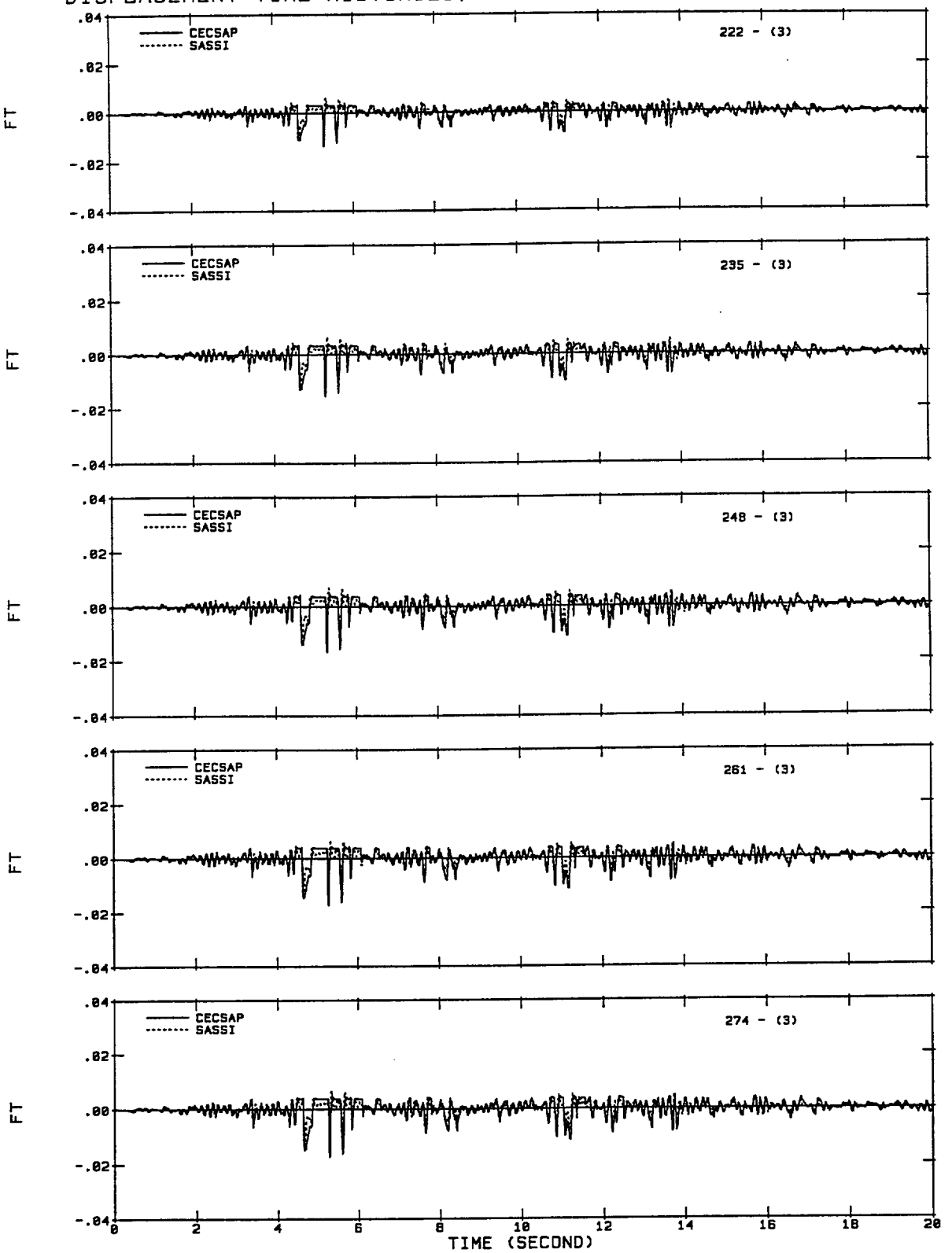

Fig. 5.2.5-6

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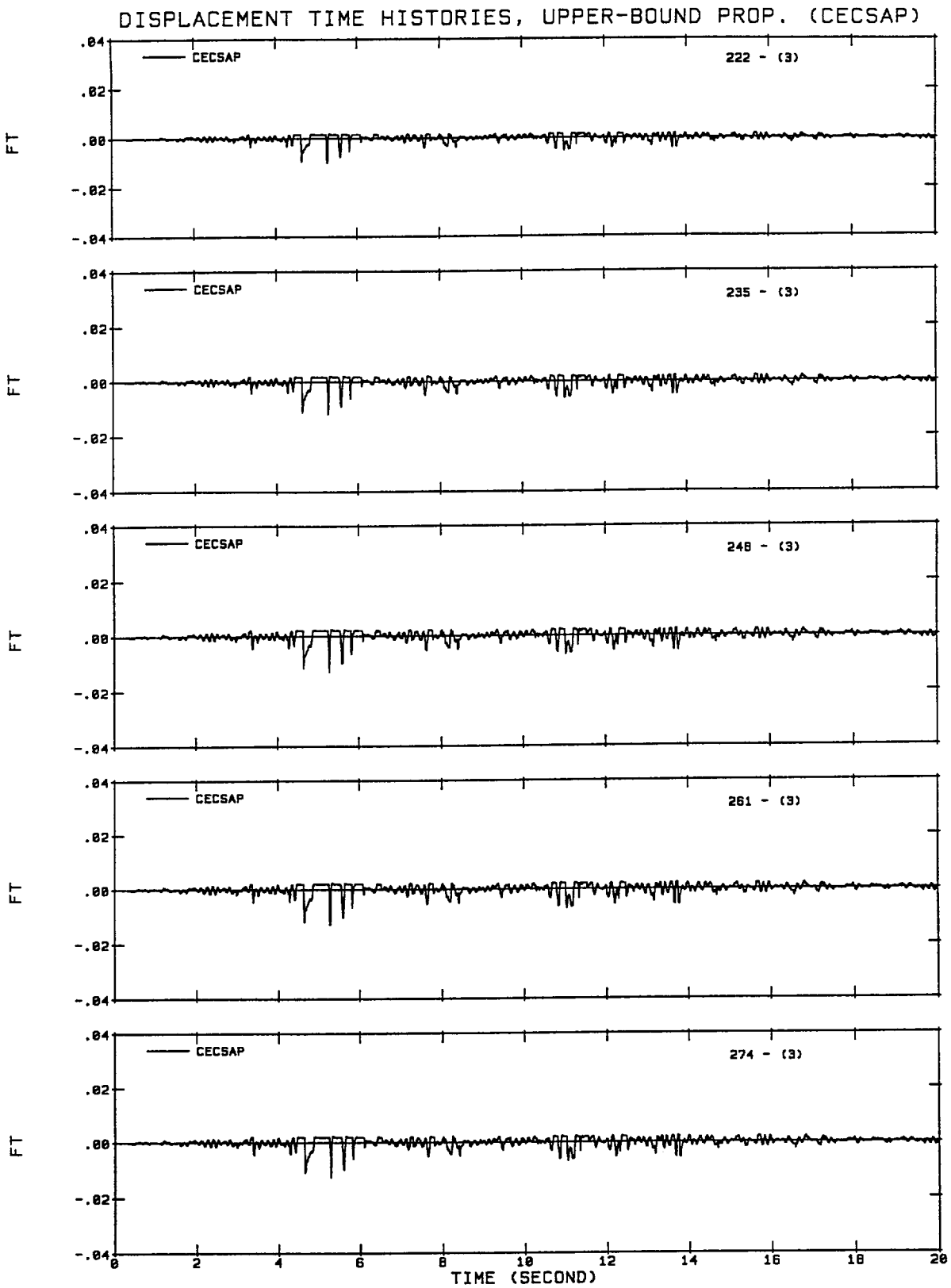

Fig. 5.2.5-7

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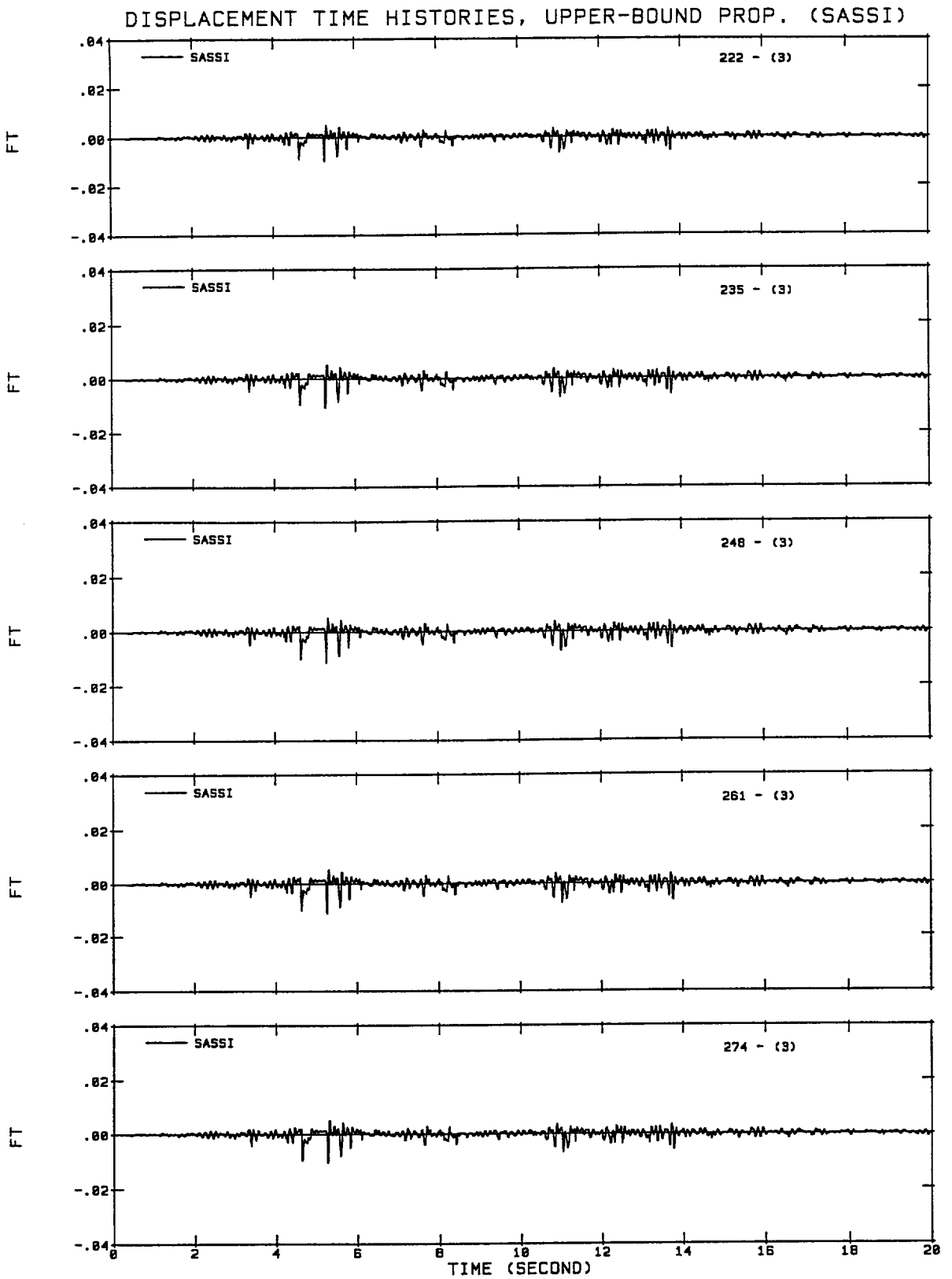

Fig. 5.2.5-8

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CALC. NO.	G(P017)-2	REV. NO.	3
PAGE NO.	216		

DISPLACEMENT TIME HISTORIES, UPPER-BOUND PROP. (CECSAP vs SASSI)

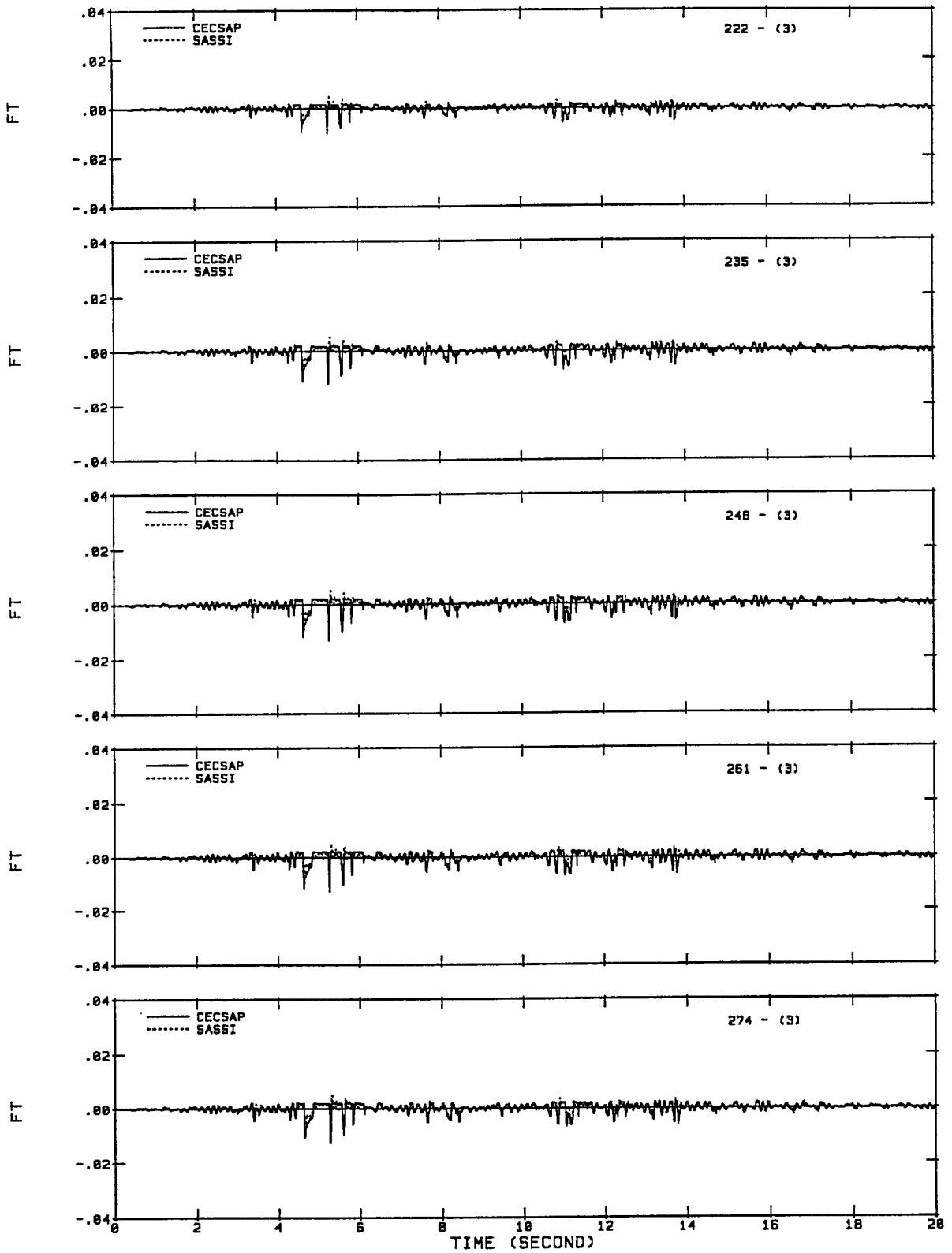

Fig. 5.2.5-9

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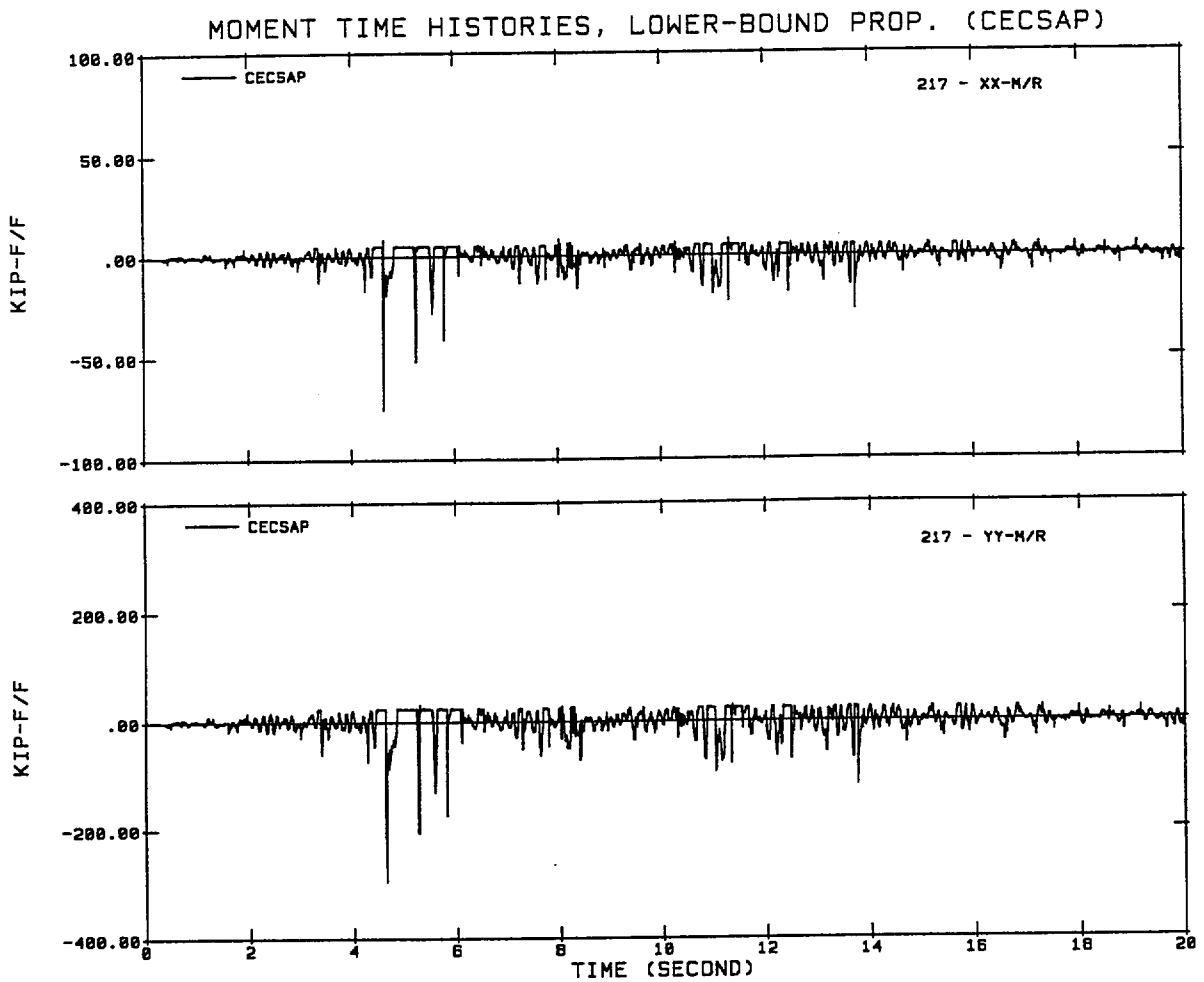

Fig. 5.2.5-10

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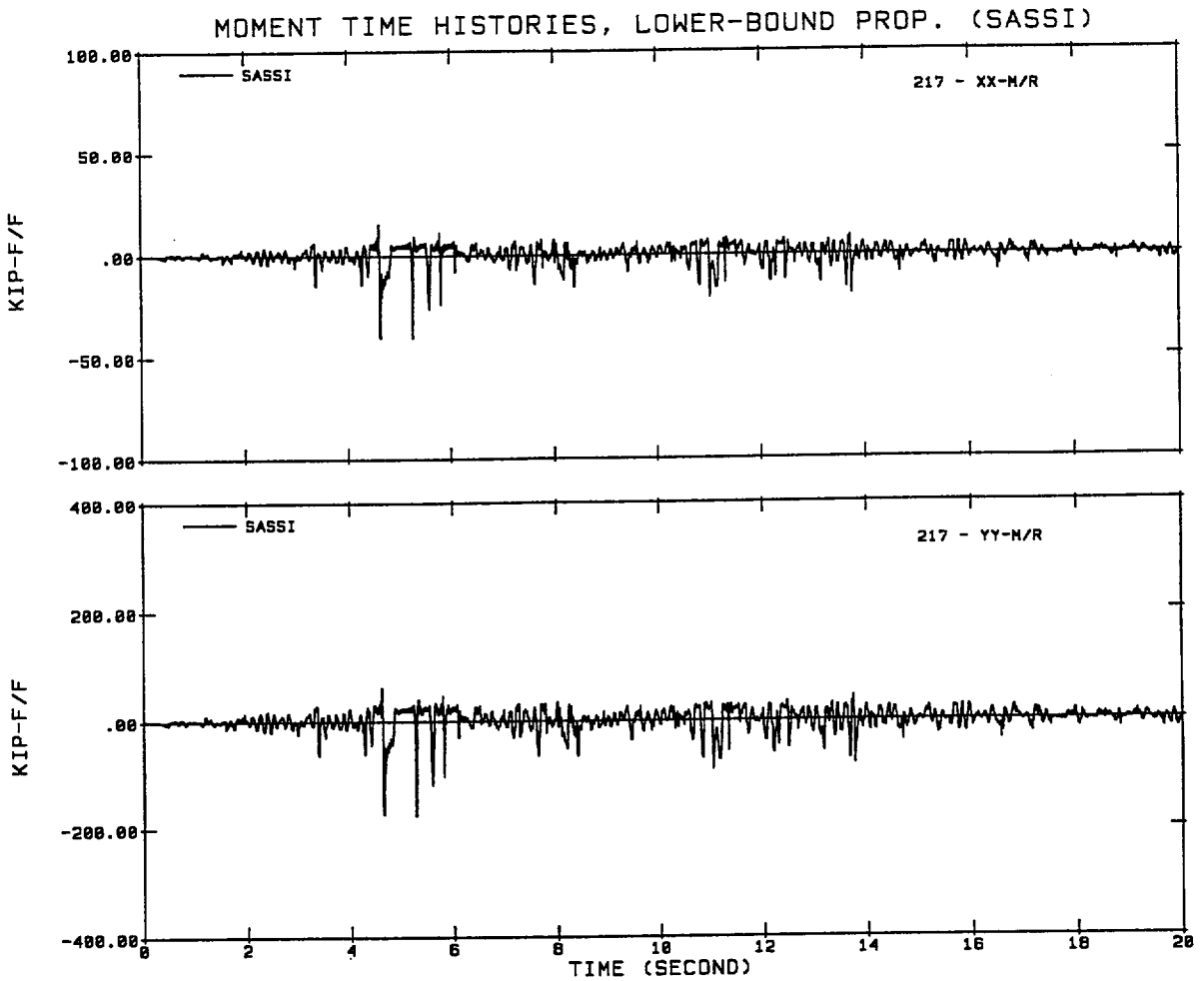

Fig. 5.2.5-11

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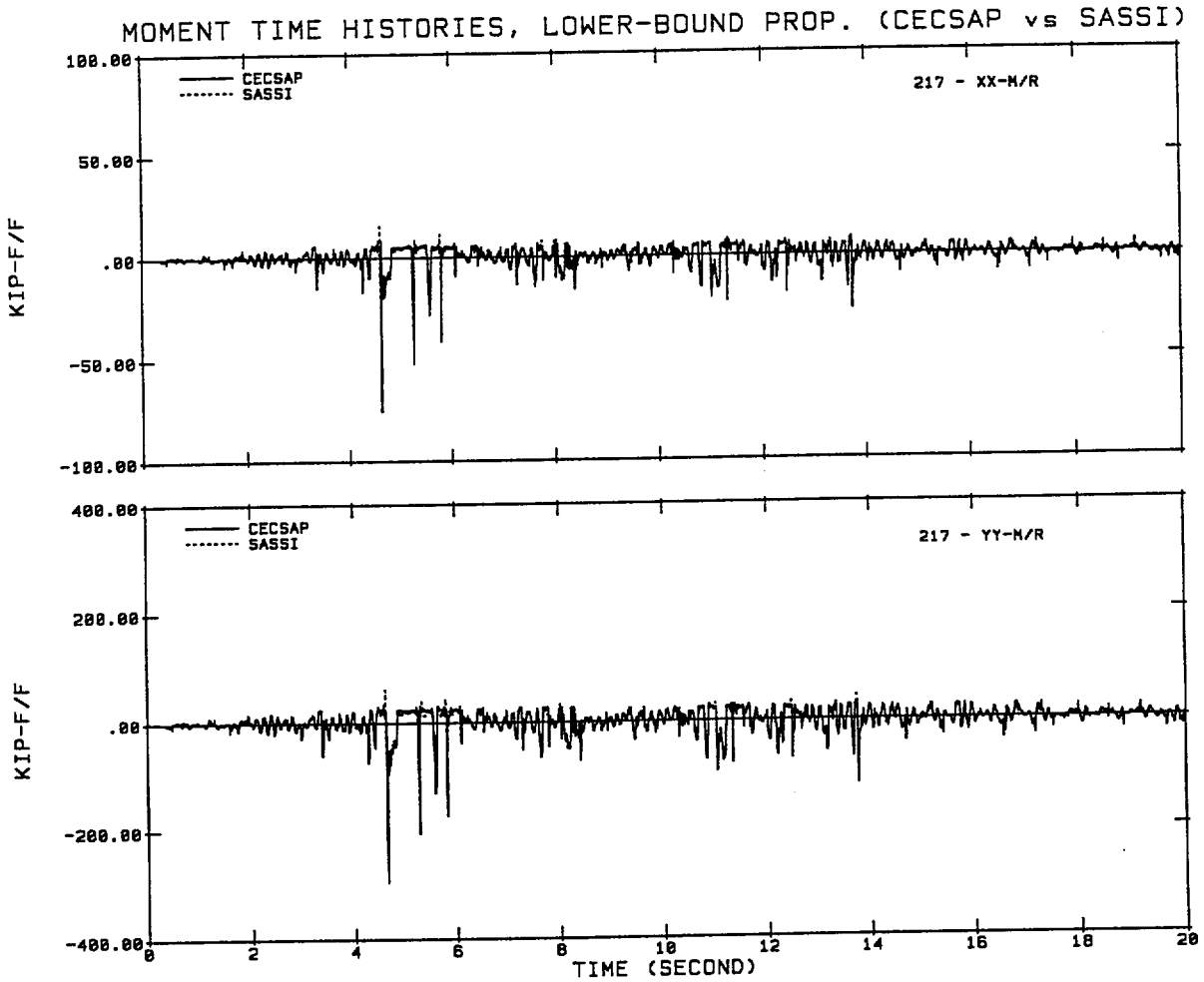

Fig. 5.2.5-12

SUBJECT	1101-01
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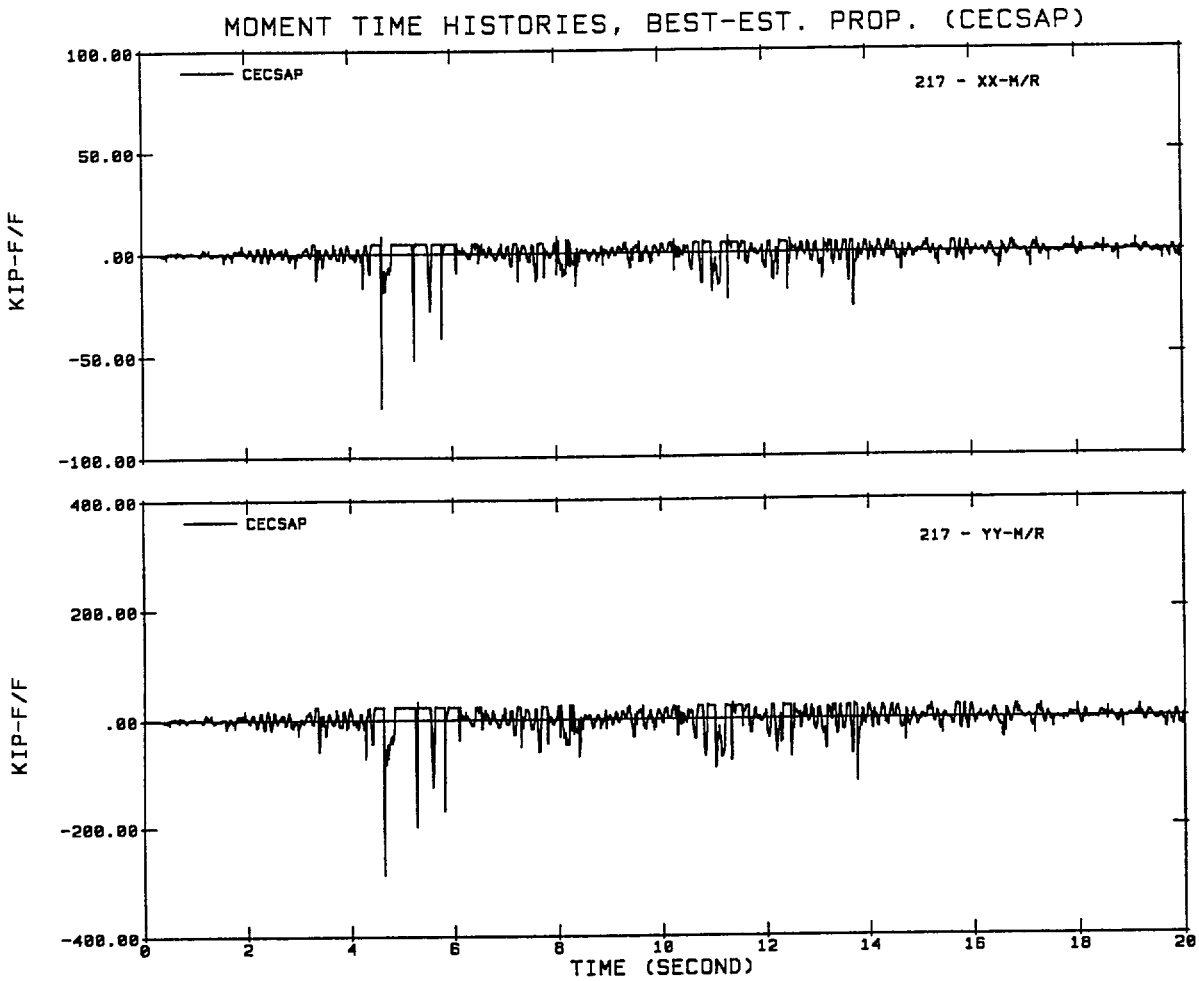

Fig. 5.2.5-13

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SHEET NO.	221		

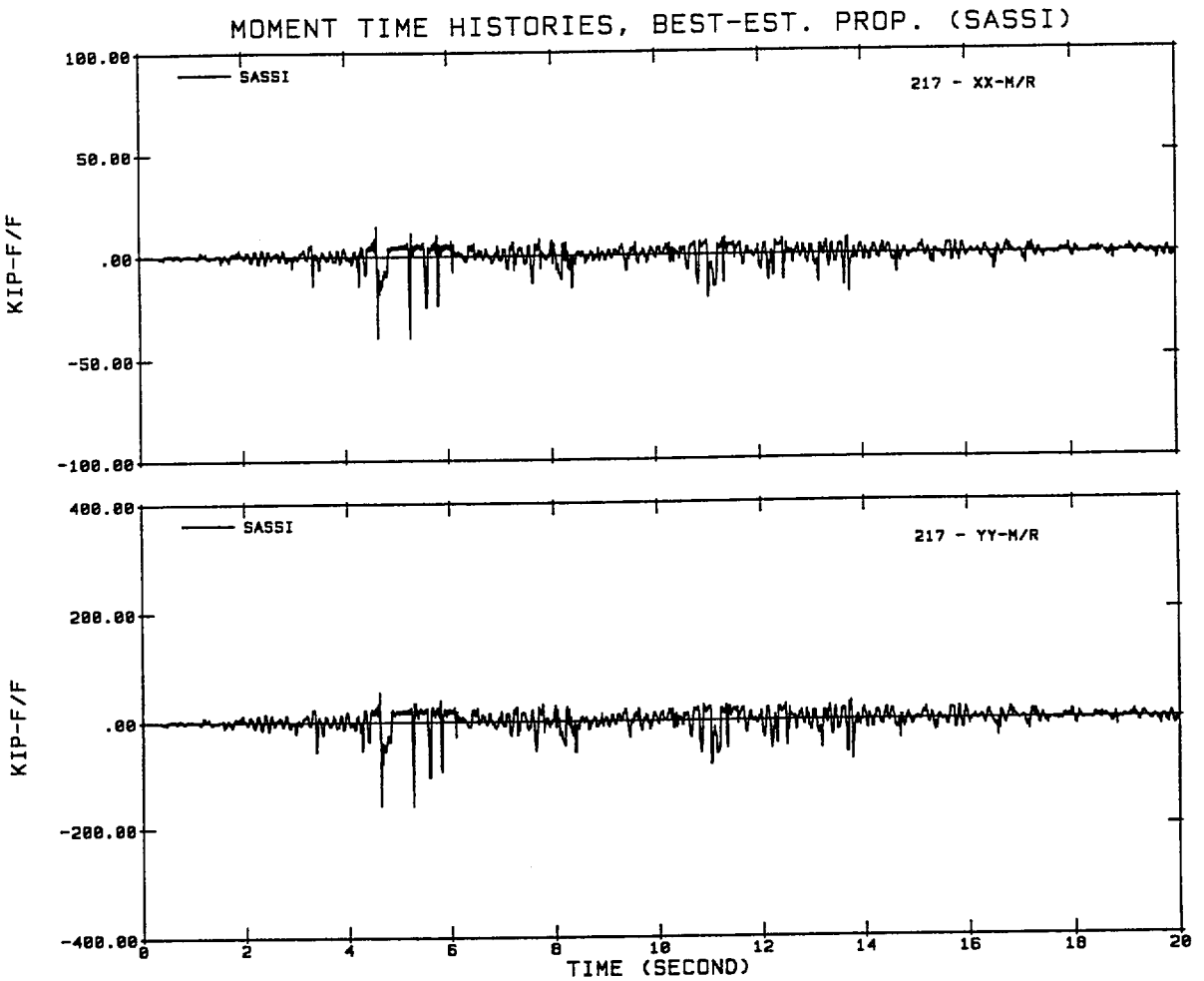

Fig. 5.2.5-14

CEC JOB NO. 1101-01	
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CHECK DH	DATE 4/2/01
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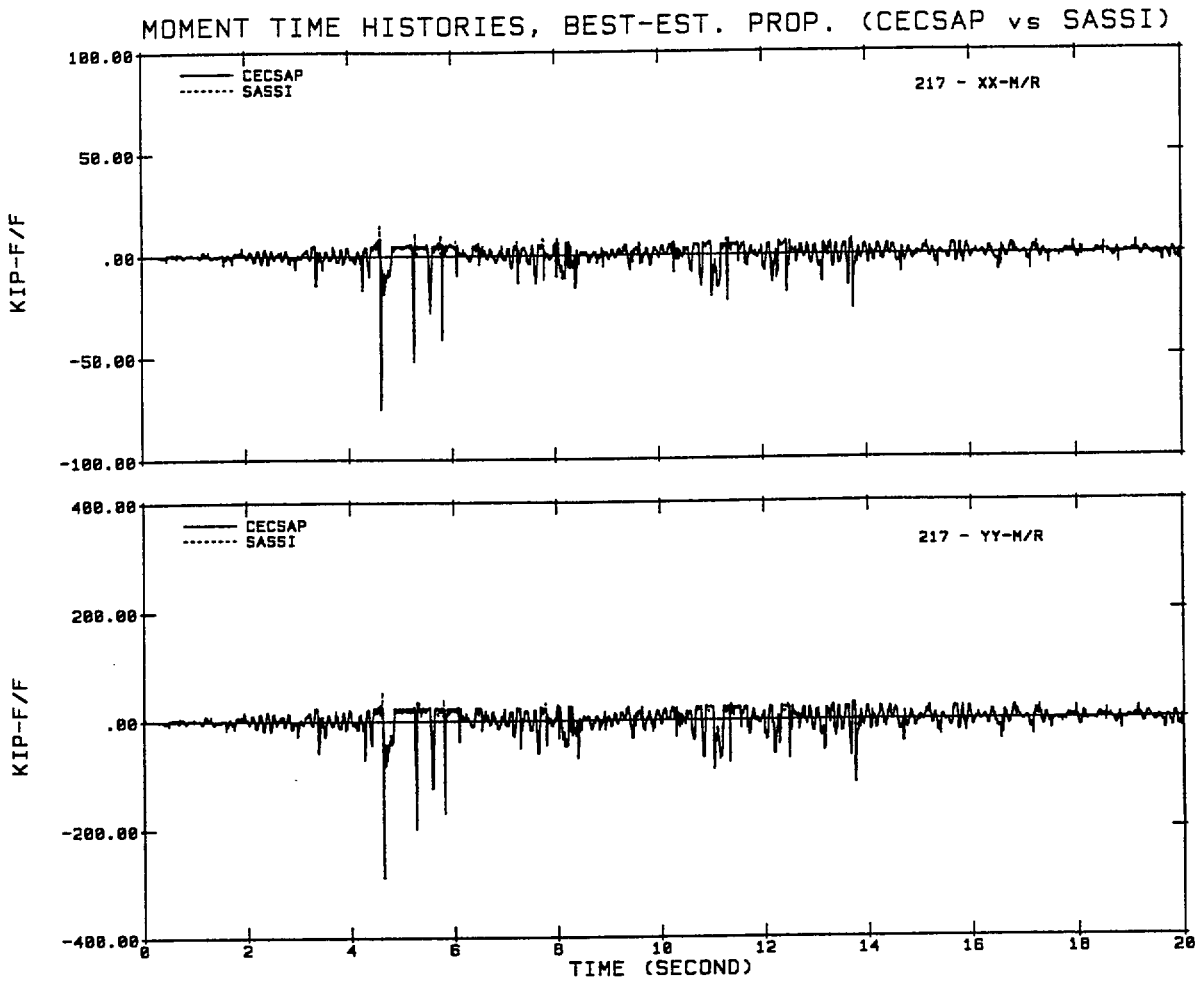

Fig. 5.2.5-15

CEC JOB NO.	1101-01		
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CHECK	DH	DATE	4/2/01
CALC. NO.	G(P017)-2	REV. NO.	3
SHEET NO.	223		

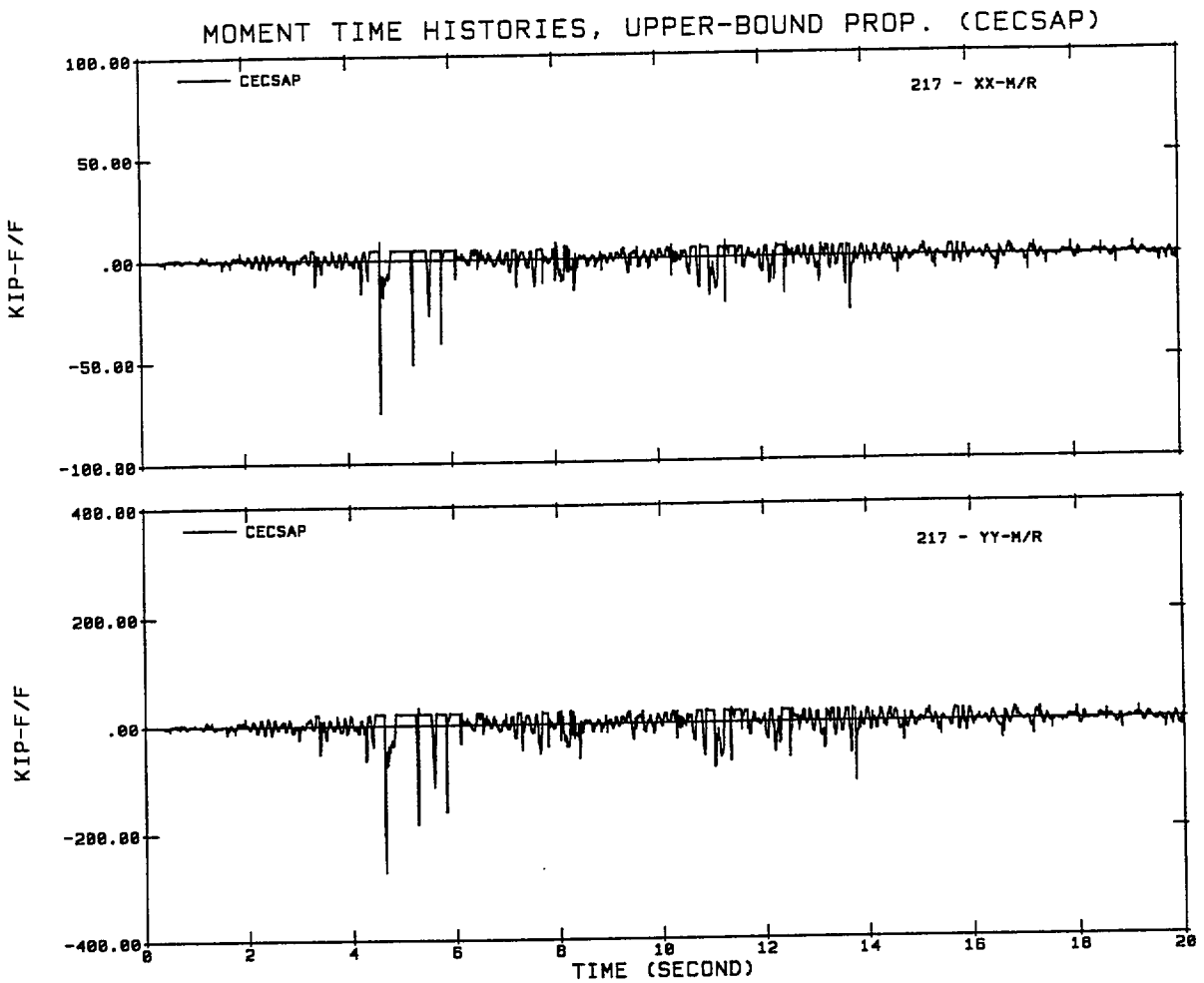

Fig. 5.2.5-16

CEC JOB NO. 1101-01	
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CHECK DH	DATE 4/2/01
CALC. NO. S1P07-2	REV. NO. 3
SHEET NO. 224	

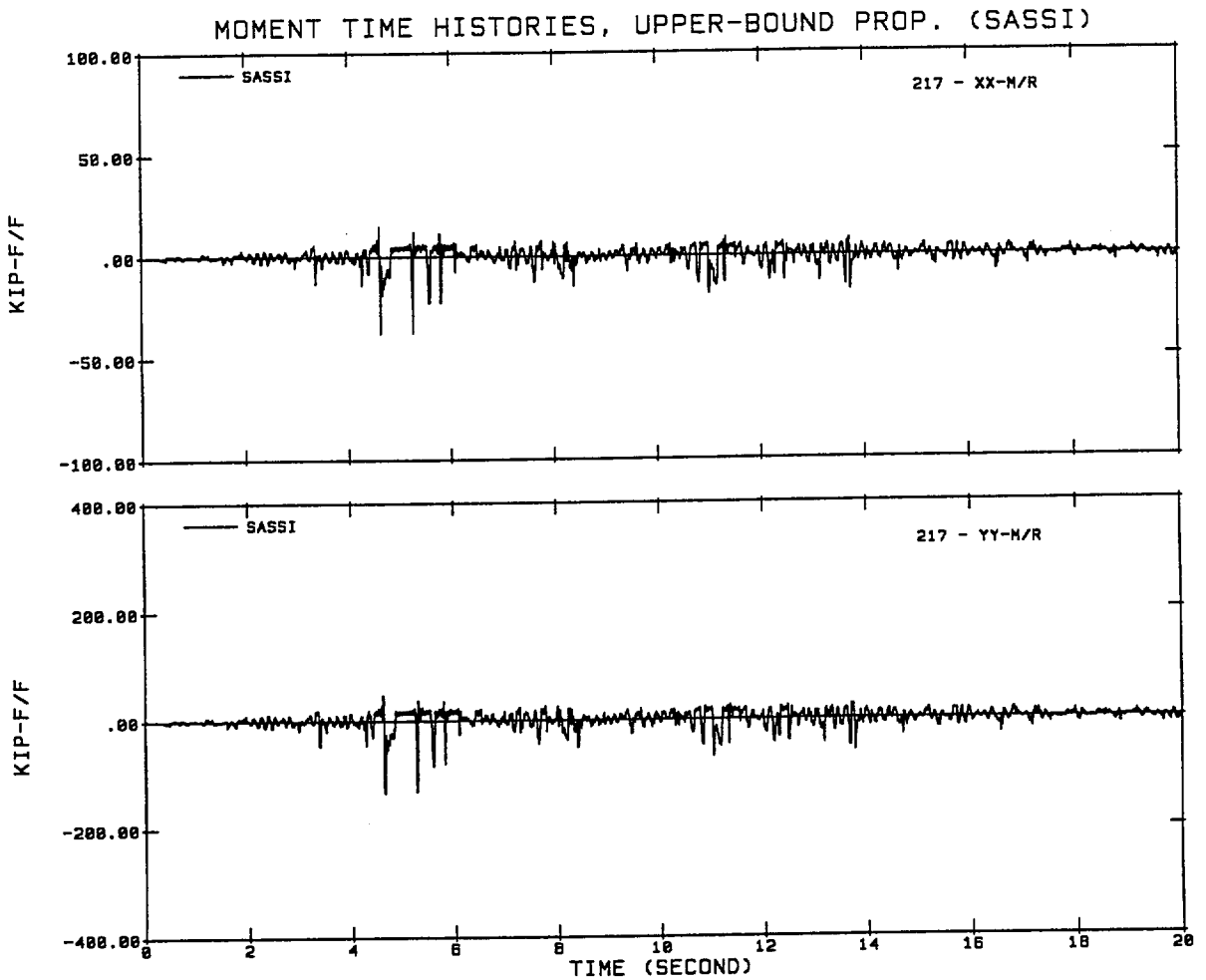


Fig. 5.2.5-17

CEC JOB NO. 1101-01	
BY aun	DATE 4/2/01
CHECK DH	DATE 4/2/01
CALC. NO. G(P017)-2	REV. NO. 3
SHEET NO. 225	

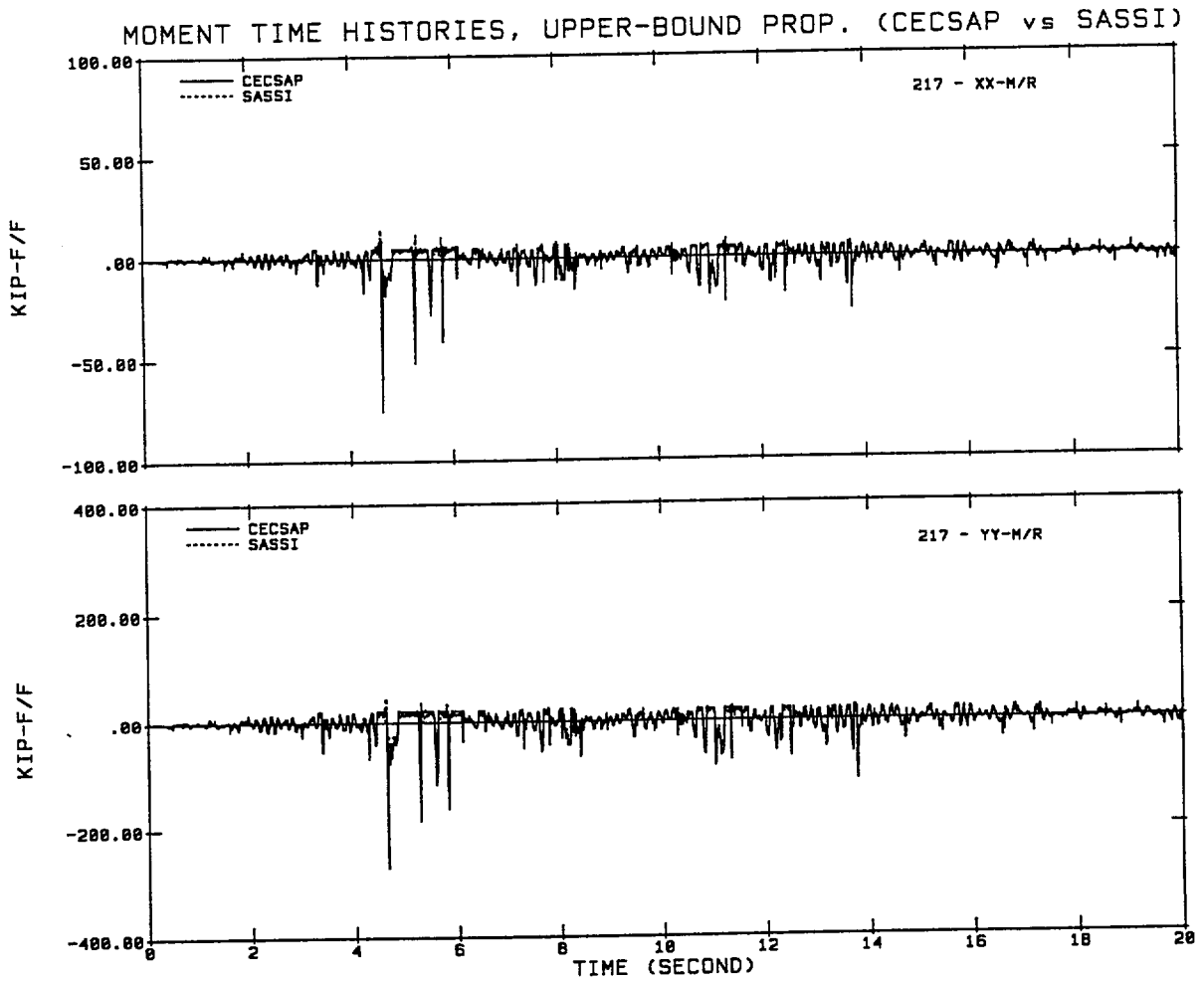


Fig. 5.2.5-18

JOB NO.	1101-01
BY	aum
DATE	4/2/01
CHECK	DH
DATE	4/2/01
CALC. NO.	G(P017)-2
REV. NO.	3
SHEET NO.	226

5.3 Soil Pressures

5.3.1 Static Soil Pressure

Calculations of static soil pressure due to dead load (DL) and cask live load (LL) are given in Table S-1 and S-2, respectively.

Table S-1
Maximum Vertical Displacements and Soil Bearing Pressures
Dead Load

	k_s = 2.75 kcf	k_s = 26.2 kcf
Z_w(ft) =	0.164	0.017
q_{zw}(ksf) =	0.45	0.45

Notes:
1. Z_w = maximum vertical displacement due to dead load (wt. of the pad only) obtained from CECSAP analysis results.
2. q_{zw} = vertical soil bearing pressure = k_s x Z_w, where k_s = subgrade modulus=2.75 and 26.2 kcf for lower-bound and upper-bound soils,respectively.

Table S-2
Maximum Vertical Displacements and Soil Bearing Pressures
Live Load

Node No.	(Z_l)max ($x10^{-2}$ ft.)							
	subgrade modulus = 2.75 kcf				subgrade modulus = 26.2 kcf			
	2 Casks	4 Casks	8 Casks	7 Casks + OLT	2 Casks	4 Casks	8 Casks	7 Casks + OLT
1	13.06	11.29	-50.97	-57.81	0.61	1.16	-4.83	-5.30
7	13.02	11.28	-50.97	-41.84	0.59	1.14	-4.84	-4.42
13	13.06	11.29	-50.97	-25.83	0.61	1.16	-4.83	-3.50
144	-11.82	-26.36	-52.73	-78.21	-0.70	-2.89	-5.78	-7.95
150	-11.93	-26.35	-52.71	-61.06	-0.76	-2.89	-5.79	-6.31
156	-11.82	-26.36	-52.71	-43.87	-0.70	-2.89	-5.78	-4.65
287	-42.54	-62.26	-50.97	-100.20	-5.13	-5.98	-4.83	-11.81
293	-42.59	-62.25	-50.97	-80.88	-5.16	-5.98	-4.84	-8.48
299	-42.54	-62.26	-50.97	-61.84	-5.13	-5.98	-4.83	-5.47
	Maximum Soil Bearing Pressure q_{zl} (1) (ksf)							
1	0	0	-1.402	-1.590	0	0	-1.264	-1.390
7	0	0	-1.402	-1.151	0	0	-1.267	-1.159
13	0	0	-1.402	-0.710	0	0	-1.264	-0.917
144	-0.325	-0.725	-1.450	-2.151	-0.185	-0.757	-1.514	-2.082
150	-0.328	-0.725	-1.450	-1.679	-0.199	-0.758	-1.516	-1.653
156	-0.325	-0.725	-1.450	-1.206	-0.185	-0.757	-1.514	-1.219
287	-1.170	-1.712	-1.402	-2.756	-1.345	-1.567	-1.264	-3.094
293	-1.171	-1.712	-1.402	-2.224	-1.352	-1.565	-1.267	-2.222
299	-1.170	-1.712	-1.402	-1.701	-1.345	-1.567	-1.264	-1.434

Notes:

1. $q_{zl} = k_s \times Z_l$, where k_s = 2.75 and 26.2 kcf for lower-bound and upper-bound subgrade moduli, respectively, and Z_l are obtained from CECSAP analysis results (Att. A)
2. Negative displacements imply downward movements.
3. The locations of nodes listed are shown in Figure 5.1-1.
4. For snow load, the soil bearing pressures is .045 ksf (Ref. 11).

5.3.2 Dynamic Horizontal and Vertical Soil Pressures

Calculations of lateral and vertical soil pressures due to dynamic cask loadings resulting from 2000-year event earthquake are given in the following tables:

Table D-1(a) shows calculation of horizontal dynamic soil pressures in the X-direction (short direction of pad).

Table D-1(b) shows calculation of horizontal dynamic soil pressures in the Y-direction (long direction of pad).

Table D-1(c) shows a summary of averaged horizontal dynamic soil reactions.

Table D-1(d) shows calculation of vertical dynamic soil pressures.

Table D-1(a)
Averaged Maximum Horizontal Soil Reactions in the X Direction
Dynamic Load

Node No.	Maximum Displacement Xd ($x10^{-3}$ ft.)								
	LB			BE			UB		
	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks
1	3.512	2.409	17.160	1.624	1.177	9.076	0.798	0.547	3.597
7	3.515	2.405	17.180	1.625	1.170	9.085	0.801	0.552	3.625
13	3.512	2.409	17.190	1.624	1.177	9.060	0.799	0.550	3.618
144	4.461	9.712	17.460	2.021	4.241	9.127	1.017	2.325	3.952
150	4.461	9.729	17.470	2.021	4.242	9.156	0.999	2.294	3.951
156	4.467	9.733	17.470	2.029	4.244	9.171	0.982	2.272	3.947
287	12.800	21.490	17.510	6.201	9.504	8.860	3.345	5.306	4.514
293	12.800	21.490	17.530	6.186	9.512	8.886	3.360	5.341	4.566
299	12.800	21.470	17.530	6.173	9.516	8.886	3.381	5.349	4.565
Avg =	6.925	11.205	17.389	3.278	4.976	9.034	1.720	2.726	4.037
Kxd =	1.14E+05	1.14E+05	1.14E+05	2.33E+05	2.33E+05	2.33E+05	5.48E+05	5.48E+05	5.48E+05
Qxd =	789	1277	1982	764	1159	2105	943	1494	2212

Notes:

1. Avg = {sum $(Xd)_i$}/N; Xd = max. x-displ.; i = nodes 1, 7, 13, 144, 150, 156, 287, 293, 299; and N = 9.
2. Qxd = Kxd x Avg = averaged maximum horizontal-x soil reaction in Kips due to dynamic loading.
3. Kxd for LB, BE, and UB soils are dynamic horizontal-x soil spring stiffnesses given below:

(Kxd)LB =	9.51E+06 lb/in	(Kxd)BE =	1.94E+07 lb/in	(Kxd)UB =	4.57E+07 lb/in
	1.14E+05 Kips/ft		2.33E+05 Kips/ft		5.48E+05 Kips/ft

4. LB = lower-bound soil, BE = best-estimate soil, UB = upper-bound soil.
5. Xd are obtained from CECSAP analysis results given in Att. A.

Table D-1(b)
Averaged Maximum Horizontal Soil Reactions in the Y Direction
Dynamic Load

Node No.	Max. Displacement Yd ($x10^{-3}$ ft.)								
	LB			BE			UB		
	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks
1	5.107	8.657	13.550	2.194	4.059	8.393	1.413	2.578	3.979
7	3.916	7.318	14.030	2.055	4.313	8.173	1.195	1.962	4.056
13	4.303	7.097	14.510	2.567	4.664	7.937	1.337	2.161	4.109
144	5.231	8.763	13.450	2.332	4.187	8.430	1.513	2.714	3.975
150	3.946	7.447	13.960	2.122	4.429	8.132	1.267	2.133	4.042
156	4.379	7.207	14.450	2.690	4.767	7.834	1.442	2.301	4.121
287	5.389	8.870	27.260	2.449	4.357	8.396	1.651	2.821	3.926
293	4.016	7.584	13.840	2.253	4.556	8.048	1.464	2.380	4.013
299	4.476	7.253	14.370	2.877	4.846	7.795	1.657	2.334	4.097
Avg =	4.529	7.800	15.491	2.393	4.464	8.126	1.438	2.376	4.035
Kyd =	1.08E+05	1.08E+05	1.08E+05	2.21E+05	2.21E+05	2.21E+05	5.21E+05	5.21E+05	5.21E+05
Qyd =	491	846	1680	528	986	1794	749	1237	2102

Notes:
1. Avg = {sum (Yd)i}/N; Yd = max. y-displ.; i = nodes 1, 7, 13, 144, 150, 156, 287, 293, 299; and N = 9.
2. Qyd = Kyd x Avg = averaged maximum horizontal-y soil reaction in Kips due to dynamic loading.
3. Kyd for LB, BE, and UB soils are dynamic horizontal-y soil spring stiffnesses given below:

(Kyd)LB = 9.04E+06 lb/in, 1.08E+05 Kips/ft (Kyd)BE = 1.84E+07 lb/in, 2.21E+05 Kips/ft (Kyd)UB = 4.34E+07 lb/in, 5.21E+05 Kips/ft

4. LB = lower-bound soil, BE = best-estimate soil, UB = upper-bound soil.
5. Yd are obtained from CECSAP analysis results given in Att. A.

Table D-1(c)
Summary of Total Maximum Horizontal Soil Reactions
Dynamic Load

	Max. Soil Reaction (Kips)								
	LB			BE			UB		
	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks
Qxd =	789	1277	1982	764	1159	2105	943	1494	2212
Qyd =	491	846	1680	528	986	1794	749	1237	2102

Notes:
1. Qxd, and Qyd shown are obtained from Tables D-1(a), and (b), respectively.
2. LB = lower-bound soil, BE = best-estimate soil, UB = upper-bound soil.

Table D-1(d)
Maximum Vertical Soil Bearing Pressures
Dynamic Load

Node No.	Maximum Displacement Zd ($x10^{-3}$ ft.)								
	LB			BE			UB		
	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks	2 Casks	4 Casks	8 Casks
1	4.051	9.396	-31.02	1.806	4.158	-23.66	0.406	1.654	-15.92
7	3.900	7.973	-24.23	1.964	3.648	-21.18	0.439	1.024	-13.36
13	4.788	11.470	-31.22	2.115	4.636	-17.88	0.528	1.560	-15.31
144	-9.195	-22.58	-34.05	-5.939	-16.84	-22.66	-1.861	-8.34	-13.66
150	-5.063	-15.2	-12.71	-3.683	-11.13	-12.39	-1.332	-6.698	-8.016
156	-6.565	-15.9	-32.24	-2.988	-9.447	-18.42	-1.734	-5.773	-14.53
287	-29.18	-24.39	-17.51	-14.54	-15.67	-18.88	-12.72	-8.52	-8.38
293	-15.57	-16.97	-19.21	-9.019	-12.42	-12.22	-12.08	-10.68	-6.446
299	-21.85	-26.09	-28.04	-12.87	-16.35	-17.02	-9.835	-11.63	-13.12
	Maximum Soil Bearing Pressure q_{zd} (Kips/ft^2)								
1	0	0	-2.22	0	0	-3.35	0	0	-5.14
7	0	0	-1.74	0	0	-3.00	0	0	-4.32
13	0	0	-2.24	0	0	-2.53	0	0	-4.94
144	-0.66	-1.62	-2.44	-0.84	-2.38	-3.21	-0.60	-2.69	-4.41
150	-0.36	-1.09	-0.91	-0.52	-1.57	-1.75	-0.43	-2.16	-2.59
156	-0.47	-1.14	-2.31	-0.42	-1.34	-2.61	-0.56	-1.86	-4.69
287	-2.09	-1.75	-1.25	-2.06	-2.22	-2.67	-4.11	-2.75	-2.71
293	-1.12	-1.22	-1.38	-1.28	-1.76	-1.73	-3.90	-3.45	-2.08
299	-1.57	-1.87	-2.01	-1.82	-2.31	-2.41	-3.18	-3.76	-4.24

Notes:

1. q_{zd} = maximum soil bearing pressure = (Kzd x Z_d)/A, where A = 67' x 30' = 2010 ft^2.
2. Kzd for LB, BE, and UB soils are vertical-z dynamic soil spring stiffnesses given below:

(Kzd)LB =	1.20E+07 lb/in	(Kzd)BE =	2.37E+07 lb/in	(Kzd)UB =	5.41E+07 lb/in
	1.44.E+05 Kips/ft		2.84.E+05 Kips/ft		6.49.E+05 Kips/ft

3. LB = lower-bound soil, BE = best-estimate soil, UB = upper-bound soil.
4. Zd are obtained from CECSAP analysis results given in Att. A.
5. Negative displacements imply downward movements.
6. The maximum values of Zd shown may not be concurrent. However, they are assumed to be concurrent values and concurrent signs are assigned to them.
7. Node numbers are shown in Figure 5.1-1.

6. DESIGN CALCULATIONS

6.1 Design of Reinforced Concrete Pad

Ultimate Static Moment Calculation

Concrete Properties: (Ref. 4)

f'c =	3000		
DIF =	1	**(static)**	(DIF=Dynamic Impact Factor)
DIF * f'c =	3000	psi	

Poisson's Ratio, nu= 0.17

Young's Modulus,Ec= 3122019 psi (57000*sqrt(f'c))

Reinforcing Steel Properties:

fy =	60000	
DIF =	1	**(static)**
DIF * fy =	60000	psi

Young's Modulus, Es= 29000000 psi

Since the in-plane forces induced in the pad, as plotted in Attachment A-5, are minimal, they will be neglected in the ultimate capacity calculations.

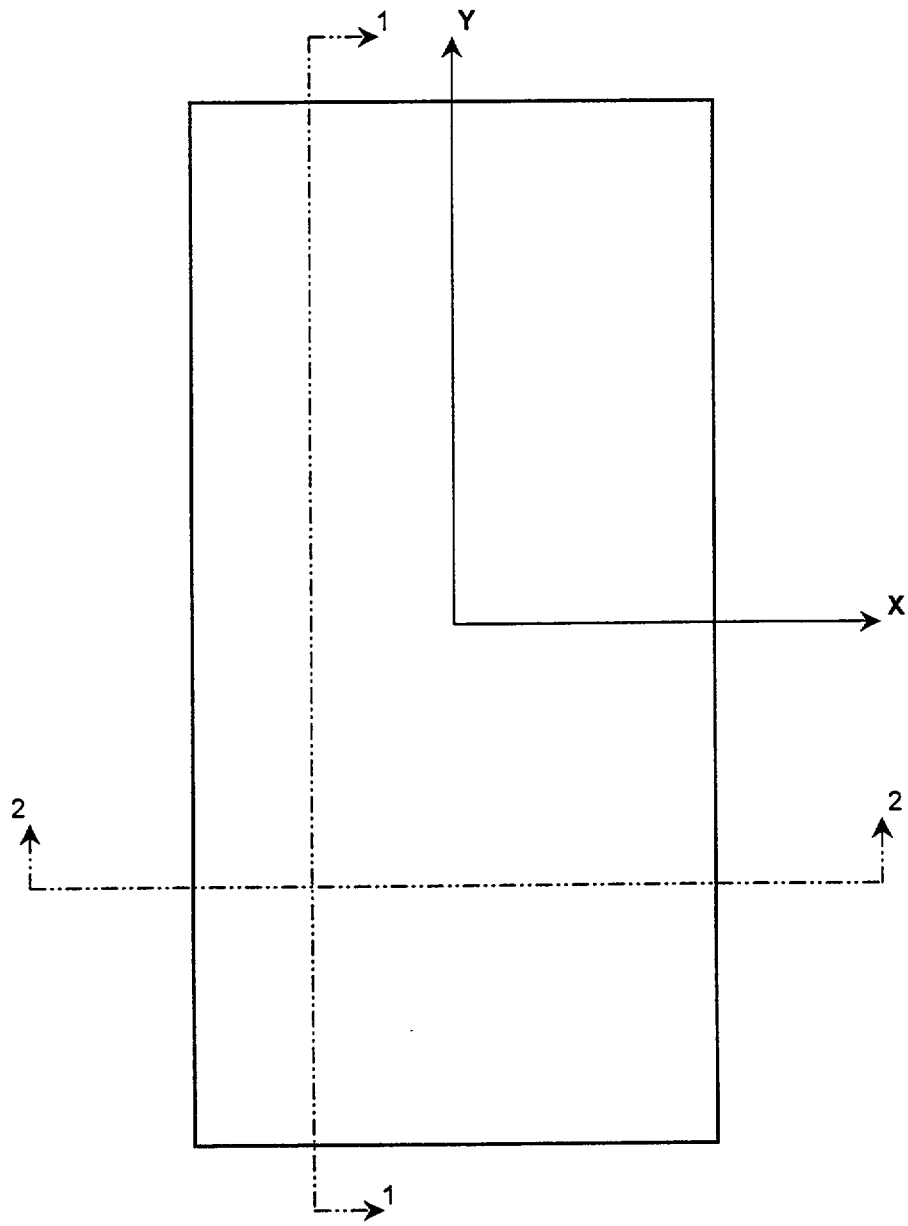


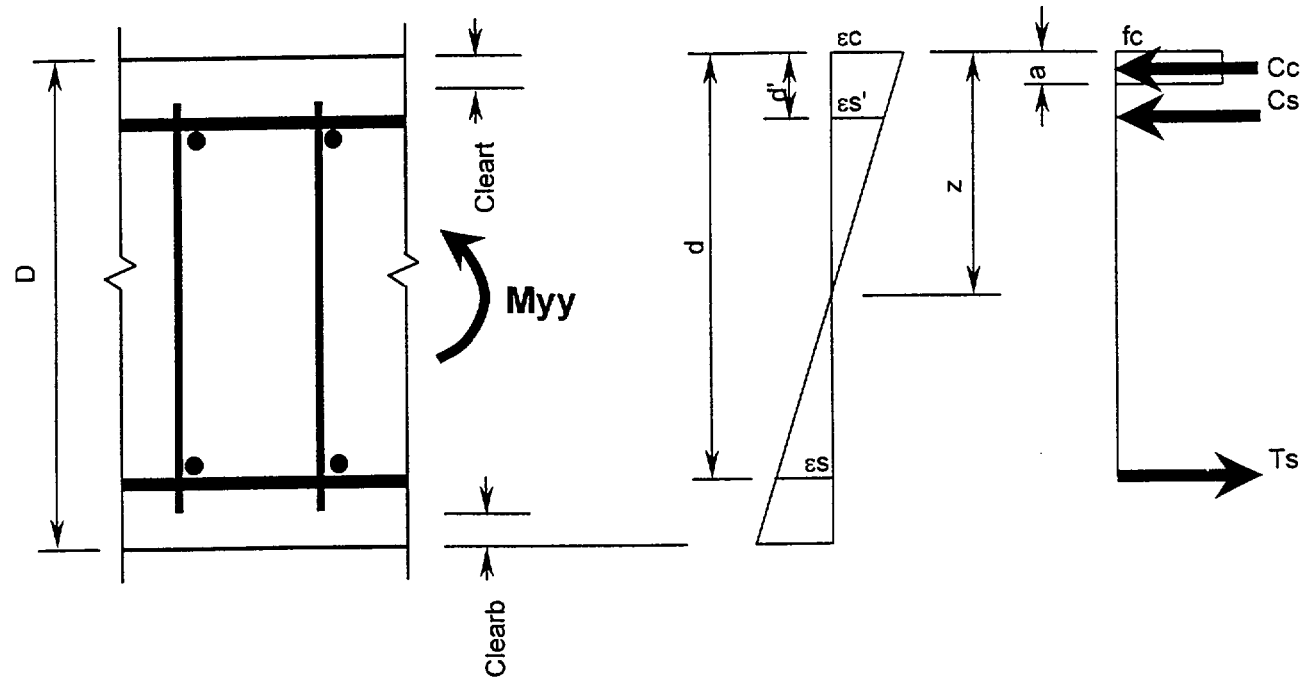
Figure 6-1 Plan View of Pad (not to scale)

Sections used for calculating moment capacities.

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 237

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on bottom



Section 1-1 Strain Forces

Reinforce-ment Location	Number Each way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Top	1	11	1.41	1.56	1.56
Bottom	1	11	1.41	1.56	1.56
Shear	1	7	0.875	0.6	0.6

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	238

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on bottom
(Iterate on εs to obtain force balance)

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of comp rebar, d' = Cleart + 1.41/2 + 0.88=	3.58 in
Comp face to CL of tensile rebar, d = D - Clearb - 1.41/2 - 0.88=	31.42 in
Assumed steel tensile strain at ultimate, εs =	**0.023274**
Concrete compressive strain at ultimate, εc =	0.003
Compression depth, z = εc * d / (εc + εs) =	3.5876 in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	6.336E-06
Depth of concrete compression block, a = .85 * z =	3.0494405 in
Consider a unit width, b =	12 in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-2550 psi
Concrete compressive force, Cc = fc * a * b =	-93312.88 lb
Steel compressive stress, σs' = -εs' * Es =	-183.7467 psi
Steel compressive force, Cs = σs' * As' =	-286.6448 lb
Steel tensile stress , σs = εs * Es =	60000 psi
Steel tensile force, Ts = σs * As =	93600 lb
Total Force (should be approximately zero) =	0.5 lb

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED MV	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	239

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on bottom

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.47528	1537356
Compression steel, ys' = D/2 - d' =	14.42	4133
Tensile steel, ys = d - D/2 =	13.42	1256112

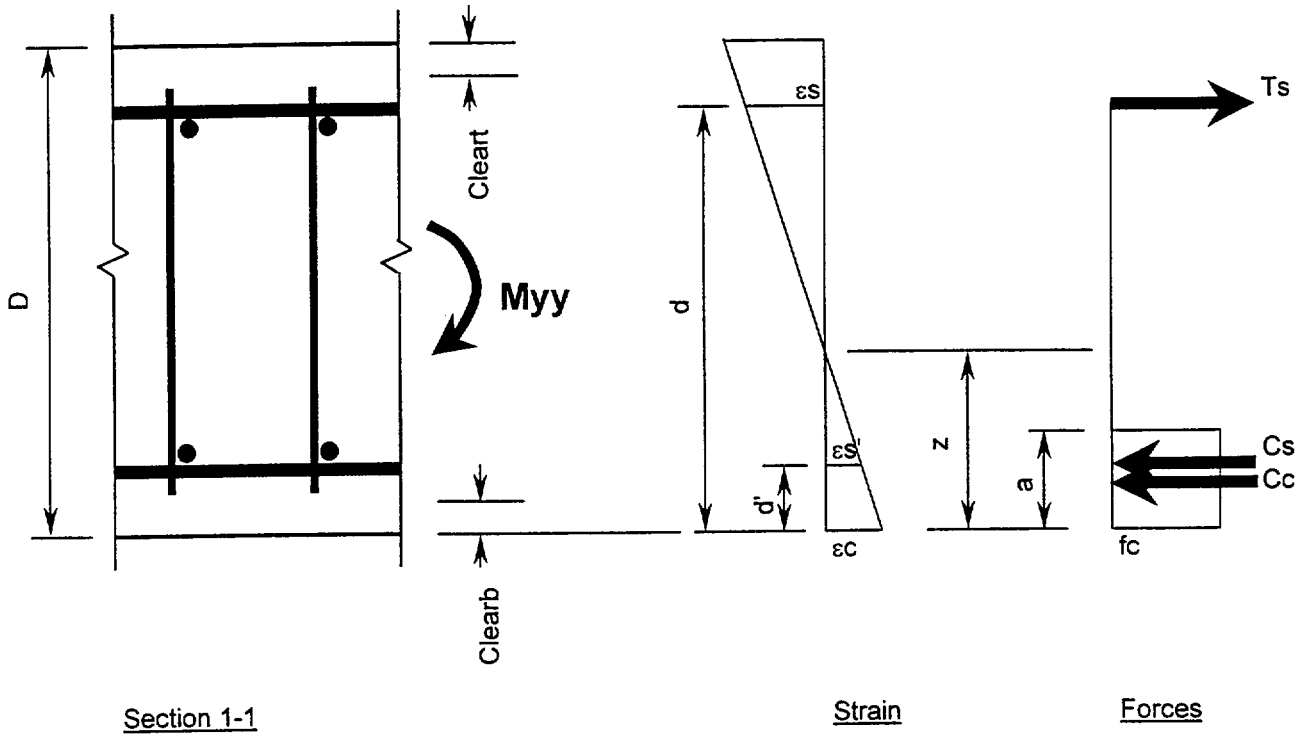
Moment capacity (per unit foot width) = 2797601 lb-in/ft

= 233.1 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	240

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on top



CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	241

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on top
(Iterate on εs to obtain force balance)

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of comp rebar, d' = Clearb + 1.41/2 + 0.88=	4.58 in
Comp face to CL of tensile rebar, d = D - Cleart - 1.41/2 - 0.88=	32.42 in
Steel tensile strain at ultimate, εs =	**0.020462**
Concrete compressive strain at ultimate, εc =	0.003
Compression depth, z = εc * d / (εc + εs) =	4.15 in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000314
Depth of concrete compression block, a = .85 * z =	3.5236127 in
Consider a unit width, b =	12 in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-2550 psi
Concrete compressive force, Cc = fc * a * b =	-107822.5 lb
Steel compressive stress, σs' = -εs' * Es =	9120.3837 psi
Steel compressive force, Cs = σs' * As' =	14227.799 lb
Steel tensile stress , σs = εs * Es =	60000 psi
Steel tensile force, Ts = σs * As =	93600 lb
Total Force (should be approximately zero) =	5.3 lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KV	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 242

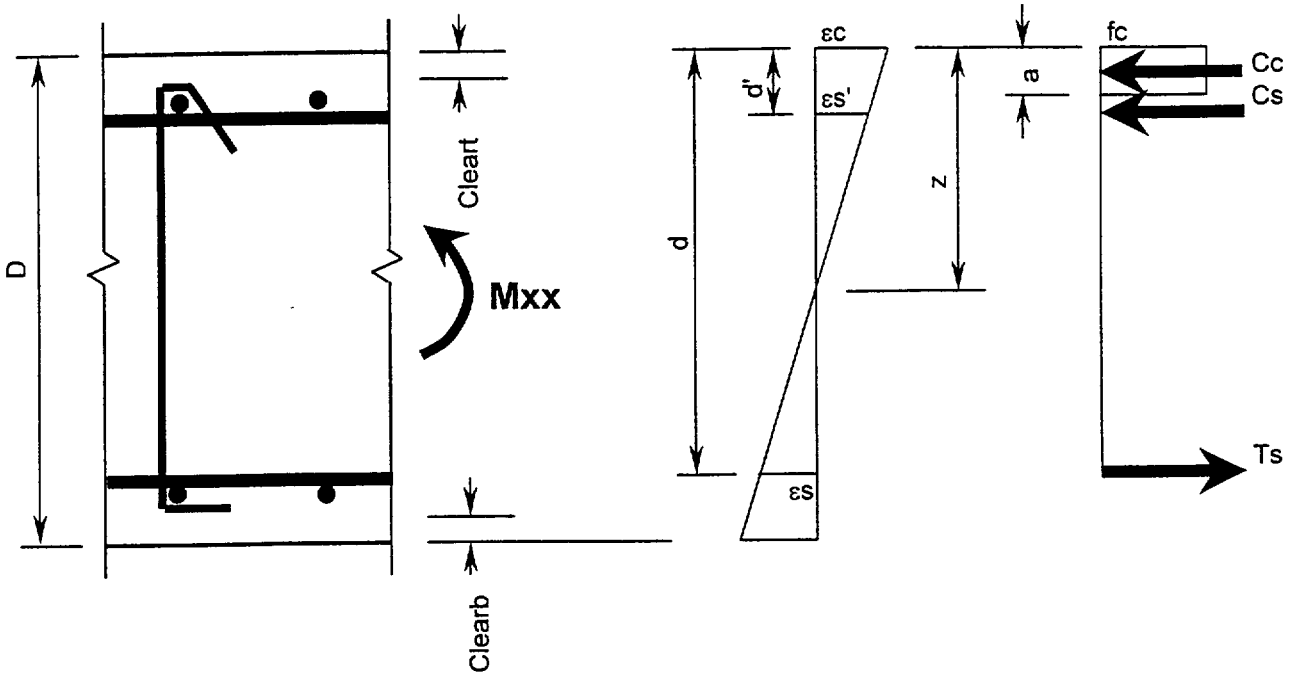
Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(static)**
Tension on top

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.238194	1750843
Compression steel, ys' = D/2 - d' =	13.42	-190937
Tensile steel, ys = d - D/2 =	14.42	1349712
Moment capacity (per unit foot width) =		2909618 lb-in/ft
=		242.5 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DJ	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 243

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on bottom



Section 2-2 Strain Forces

Reinforce-ment Location	Number Each way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Top	1	11	1.41	1.56	1.56
Bottom	1	11	1.41	1.56	1.56
Shear	1	7	0.875	0.6	0.6

CALCULATION SHEET

ORIGINATOR	PH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 244

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on bottom
(Iterate on εs to obtain force balance)

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of comp rebar, d' = Cleart + 1.41*1.5 + 0.88=	4.99 in
Comp face to CL of tensile rebar, d = D - Clearb - 1.41*1.5 - 0.88=	30.01 in
Steel tensile strain at ultimate, εs =	**0.017664**
Concrete compressive strain at ultimate, εc =	0.003
Compression depth, z = εc * d / (εc + εs) =	4.36 in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000436
Depth of concrete compression block, a = .85 * z =	3.7033246 in
Consider a unit width, b =	12 in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-2550 psi
Concrete compressive force, Cc = fc * a * b =	-113321.7 lb
Steel compressive stress, σs' = -εs' * Es =	12643.034 psi
Steel compressive force, Cs = σs' * As' =	19723.133 lb
Steel tensile stress , σs = εs * Es =	60000 psi
Steel tensile force, Ts = σs * As =	93600 lb
Total Force (should be approximately zero) =	1.4 lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KL	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 245

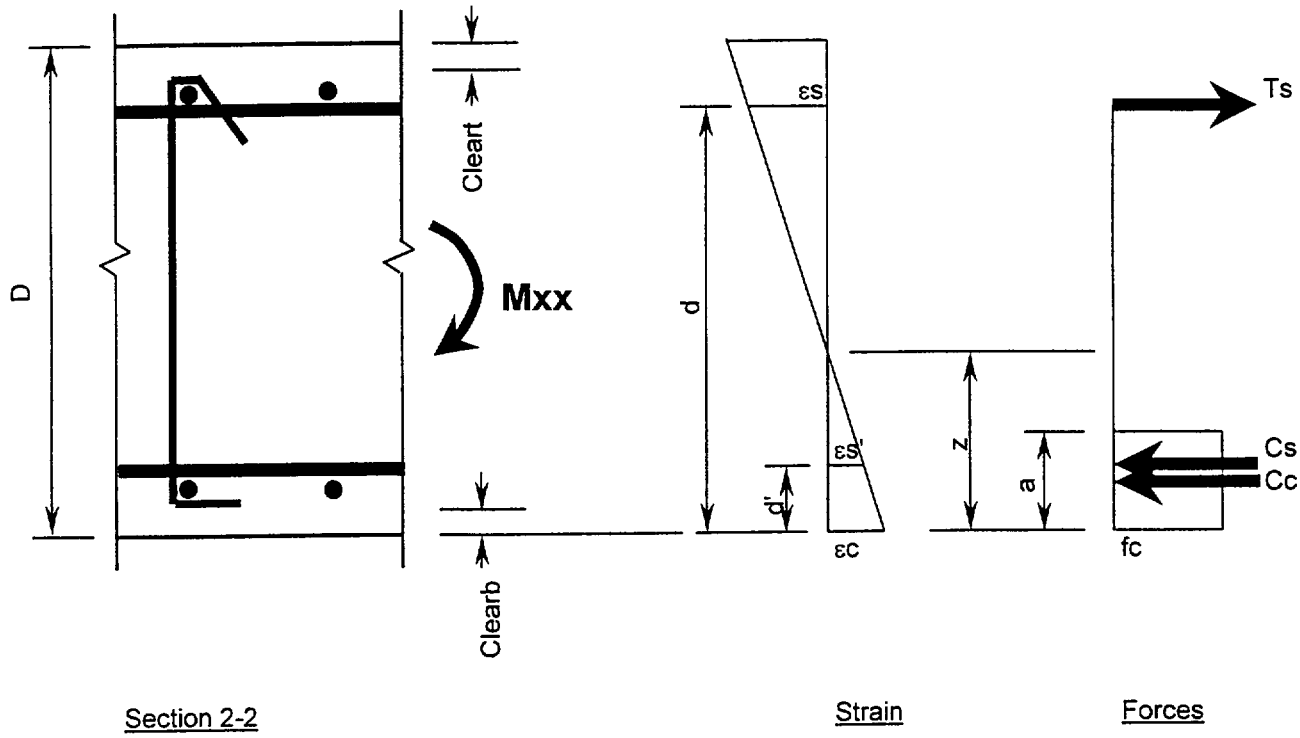
Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on bottom

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.148338	1829958
Compression steel, ys' = D/2 - d' =	13.01	-256598
Tensile steel, ys = d - D/2 =	12.01	1124136
Moment capacity (per unit foot width) =		2697496 lb-in/ft
=		224.8 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KW	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 346

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on top



CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED KW	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	247

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on top
(Iterate on εs to obtain force balance)

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of comp rebar, d' = Clearb + 1.41*1.5 + 0.88 =	5.99 in
Comp face to CL of tensile rebar, d = D - Cleart - 1.41*1.5 - 0.88=	31.01 in
Steel tensile strain at ultimate, εs =	**0.016224**
Concrete compressive strain at ultimate, εc =	0.003000
Compression depth, z = εc * d / (εc + εs) =	4.84 in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000713
Depth of concrete compression block, a = .85 * z =	4.1133739 in
Consider a unit width, b =	12 in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-2550 psi
Concrete compressive force, Cc = fc * a * b =	-125869.2 lb
Steel compressive stress, σs' = -εs' * Es =	20687.876 psi
Steel compressive force, Cs = σs' * As' =	32273.087 lb
Steel tensile stress , σs = εs * Es =	60000 psi
Steel tensile force, Ts = σs * As =	93600 lb
Total Force (should be approximately zero) =	3.8 lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KW	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 248

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(static)**
Tension on top

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	15.943313	2006773
Compression steel, ys' = D/2 - d' =	12.01	-387600
Tensile steel, ys = d - D/2 =	13.01	1217736

Moment capacity (per unit foot width) = 2836909 lb-in/ft

= 236.4 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 249

Check Moments for Normal Loading Condition (1.4D + 1.7L + 1.7H < ϕ * Mn)

1. -Myy (about X, tension on bottom)

Demand:	1.4D + 1.7L + 1.7H =	1.7	x 64 =	108.8 k-ft/ft	(Static Case 4LB)
Capacity:	ϕ * Mn =	0.9	x 233 =	210 k-ft/ft	

2. +Myy (about X, tension on top)

Demand:	1.4D + 1.7L + 1.7H =	1.7	x 81 =	137.7 k-ft/ft	(Static Case 2LB)
Capacity:	ϕ * Mn =	0.9	x 242 =	218 k-ft/ft	

3. -Mxx (about Y, tension on bottom)

Demand:	1.4D + 1.7L + 1.7H =	1.7	x 15 =	26.18 k-ft/ft	(L/LB, 7+OLT)
Capacity:	ϕ * Mn =	0.9	x 225 =	202 k-ft/ft	

4. +Mxx (about Y, tension on top)

Demand:	1.4D + 1.7L + 1.7H =	1.7	x 28 =	48.28 k-ft/ft	(L/LB, 7+OLT)
Capacity:	ϕ * Mn =	0.9	x 236 =	213 k-ft/ft	

Notes:
X = transverse axis
Y = longitudinal axis
+M = tension on top surface
-M = tension on bottom surface

ϕ = Strength reduction factor as per ACI 349-85, 9.3.2.
Demand moments for D and H load cases are 0.0

Ultimate Dynamic Moment Calculation

Concrete Properties: (Ref. 4)

f'c =	3000	psi	
DIF =	1.20 **(dynamic)**		(See Appendix A for DIF calculation)
DIF * f'c =	3,600	psi	
Poisson's Ratio, nu=	0.17		
Young's Modulus,Ec=	3,420,000	psi	(=57000*sqrt(f'c))

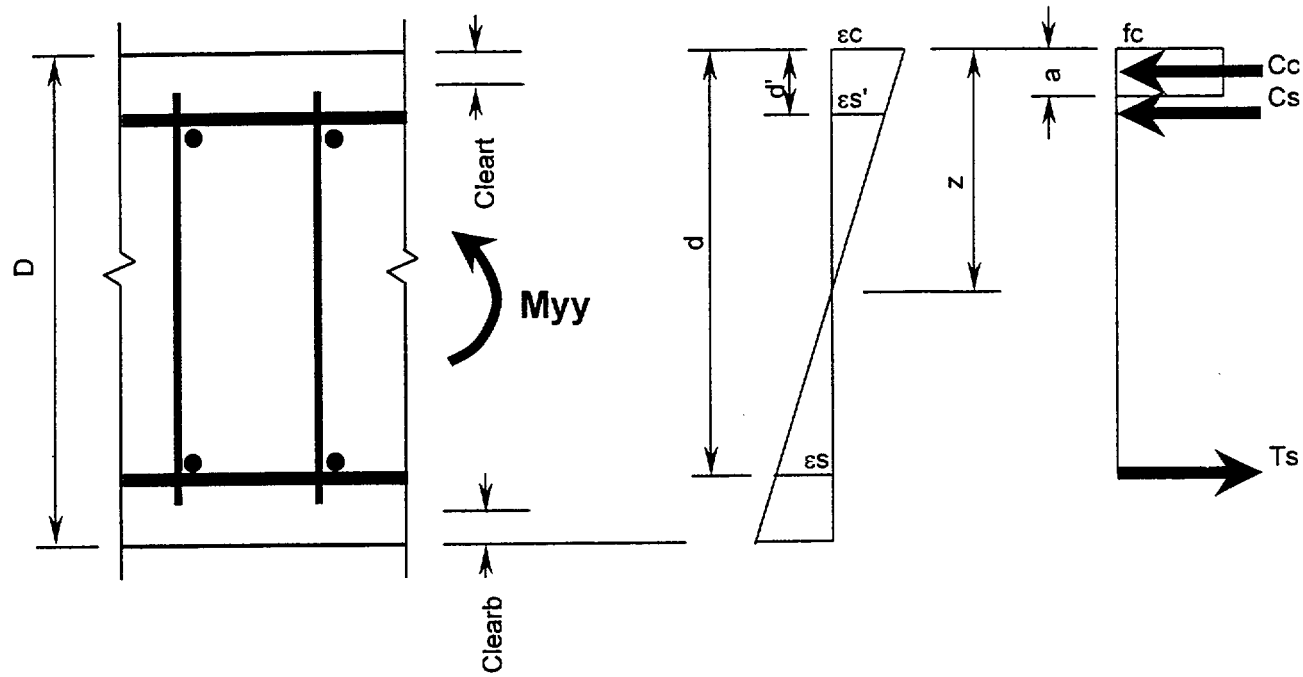
Reinforcing Steel Properties: (Ref. 4)

fy =	60000	psi	
DIF =	1.1 **(dynamic)**		(See Appendix A for DIF calculation)
DIF * fy =	66,000	psi	
Young's Modulus, Es=	29,000,000	psi	

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 251

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on bottom



Section 1-1 Strain Forces

Reinforce-ment Location	Number Each way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Top	1	11	1.41	1.56	1.56
Bottom	1	11	1.41	1.56	1.56
Shear	1	7	0.875	0.6	0.6

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED M	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 252

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on bottom
(Iterate on εs to obtain force balance)

Total Depth, D =	36	in
Top clearance, Cleart =	2	in
Bottom clearance, Clearb =	3	in
Comp face to CL of comp rebar, d' = Cleart + 1.41/2 + 0.88=	3.58	in
Comp face to CL of tensile rebar, d = D - Clearb - 1.41/2 - 0.88=	31.42	in
Assumed steel tensile strain at ultimate, εs =	**0.024278**	
Concrete compressive strain at ultimate, εc =	0.003	
Compression depth, z = εc * d / (εc + εs) =	3.4555	in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000108	
Depth of concrete compression block, a = .85 * z =	2.9372021	in
Consider a unit width, b =	12	in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-3060	psi
Concrete compressive force, Cc = fc * a * b =	-107854.1	lb
Steel compressive stress, σs' = -εs' * Es =	3133.7352	psi
Steel compressive force, Cs = σs' * As' =	4888.6269	lb
Steel tensile stress , σs = εs * Es =	66000	psi (max = DIF*fy)
Steel tensile force, Ts = σs * As =	102960	lb
Total Force (should be approximately zero) =	-5.4	lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 253

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on bottom

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.531399	1782979
Compression steel, ys' = D/2 - d' =	14.42	-70494
Tensile steel, ys = d - D/2 =	13.42	1381723

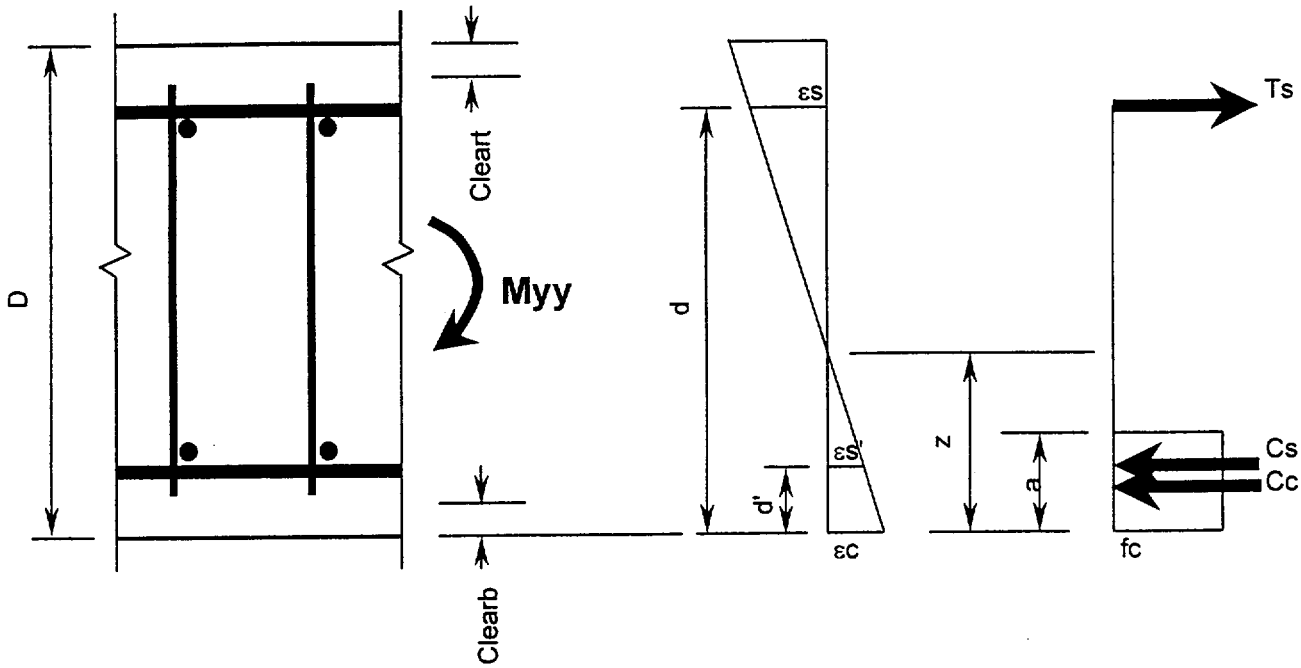
Moment capacity (per unit foot width) = 3094208 lb-in/ft

= 257.9 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 254

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on top



CALCULATION SHEET

			CALC. NO.	G(PO17)-2	REV. NO. 3
ORIGINATOR	DH	DATE 3/16/01	CHECKED	[illegible]	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 255

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on top
(Iterate on εs to obtain force balance)

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of comp rebar, d' = Clearb + 1.41/2 + 0.88=	4.58 in
Comp face to CL of tensile rebar, d = D - Cleart - 1.41/2 - 0.88=	32.42 in
Steel tensile strain at ultimate, εs =	**0.021507**
Concrete compressive strain at ultimate, εc =	0.003
Compression depth, z = εc * d / (εc + εs) =	3.97 in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000462
Depth of concrete compression block, a = .85 * z =	3.3733627 in
Consider a unit width, b =	12 in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-3060 psi
Concrete compressive force, Cc = fc * a * b =	-123869.9 lb
Steel compressive stress, σs' = -εs' * Es =	13401.596 psi
Steel compressive force, Cs = σs' * As' =	20906.49 lb
Steel tensile stress , σs = εs * Es =	66000 psi (max = DIF*fy)
Steel tensile force, Ts = σs * As =	102960 lb
Total Force (should be approximately zero) =	-3.4 lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 256

Moment Capacity of the pad (per unit length) about the X-axis (about transverse) **(dynamic)**
Tension on top

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.313319	2020729
Compression steel, ys' = D/2 - d' =	13.42	-280565
Tensile steel, ys = d - D/2 =	14.42	1484683

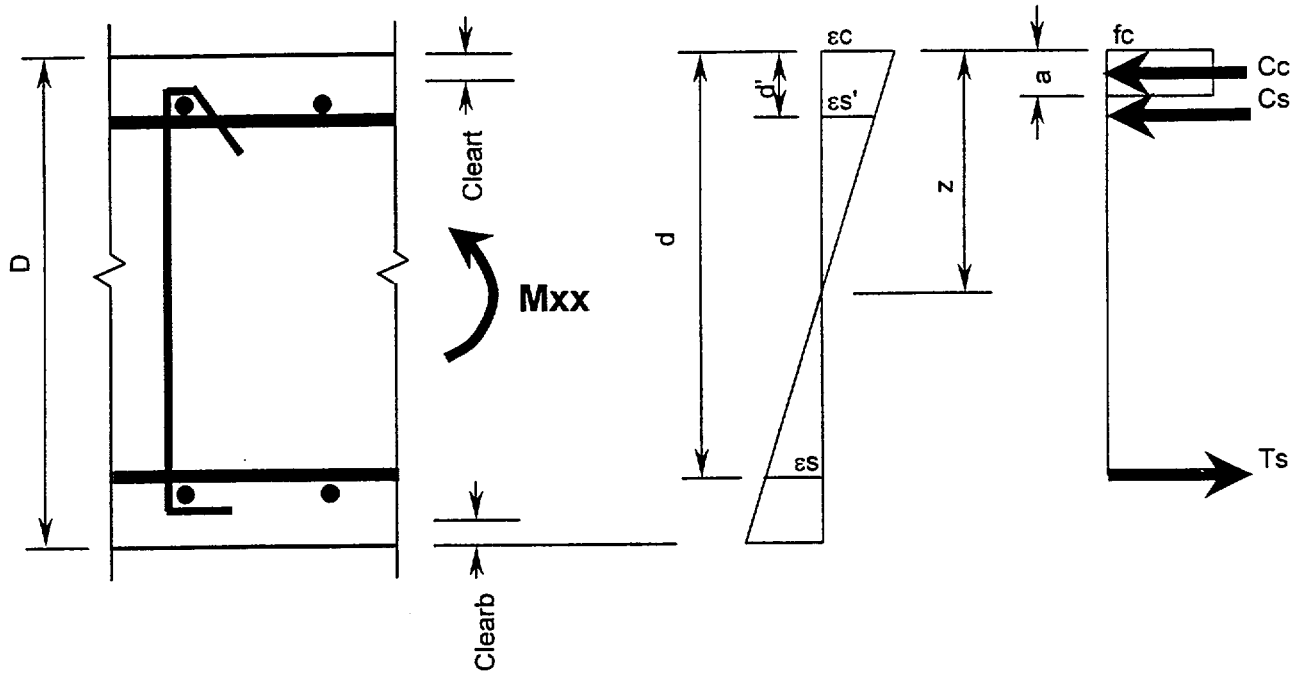
Moment capacity (per unit foot width) = 3224847 lb-in/ft

= 268.7 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED MC	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 257

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on bottom



Section 2-2 Strain Forces

Reinforce-ment Location	Number Each way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Top	1	11	1.41	1.56	1.56
Bottom	1	11	1.41	1.56	1.56
Shear	1	7	0.875	0.6	0.6

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 258

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on bottom
(Iterate on εs to obtain force balance)

Total Depth, D =	36	in
Top clearance, Cleart =	2	in
Bottom clearance, Clearb =	3	in
Comp face to CL of comp rebar, d' = Cleart + 1.41*1.5 + 0.88=	4.99	in
Comp face to CL of tensile rebar, d = D - Clearb - 1.41*1.5 - 0.88=	30.01	in
Steel tensile strain at ultimate, εs =	**0.018627**	
Concrete compressive strain at ultimate, εc =	0.003	
Compression depth, z = εc * d / (εc + εs) =	4.16	in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000596	
Depth of concrete compression block, a = .85 * z =	3.5384242	in
Consider a unit width, b =	12	in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-3060	psi
Concrete compressive force, Cc = fc * a * b =	-129930.9	lb
Steel compressive stress, σs' = -εs' * Es =	17286.677	psi
Steel compressive force, Cs = σs' * As' =	26967.216	lb
Steel tensile stress , σs = εs * Es =	66000	psi (max = DIF*fy)
Steel tensile force, Ts = σs * As =	102960	lb
Total Force (should be approximately zero) =	-3.7	lb

CALCULATION SHEET

			CALC. NO.	G(PO17)-2	REV. NO. 3
ORIGINATOR	DH	DATE 3/16/01	CHECKED	M	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 254

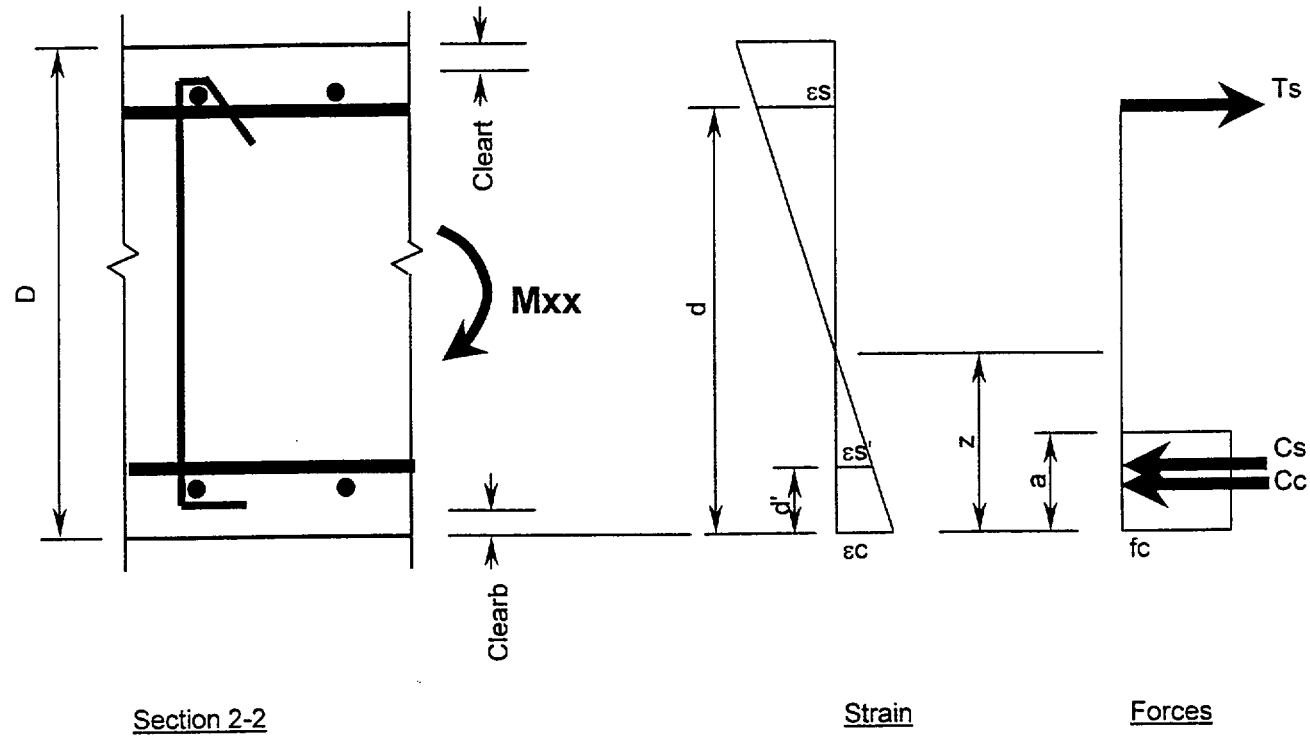
Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on bottom

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.230788	2108881
Compression steel, ys' = D/2 - d' =	13.01	-350843
Tensile steel, ys = d - D/2 =	12.01	1236550
Moment capacity (per unit foot width) =		2994588 lb-in/ft
=		249.5 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 260

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on top



CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 261

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on top
(Iterate on εs to obtain force balance)

Total Depth, D =	36	in
Top clearance, Cleart =	2	in
Bottom clearance, Clearb =	3	in
Comp face to CL of comp rebar, d' = Clearb + 1.41*1.5 + 0.88 =	5.99	in
Comp face to CL of tensile rebar, d = D - Cleart - 1.41*1.5 - 0.88=	31.01	in
Steel tensile strain at ultimate, εs =	**0.017199**	
Concrete compressive strain at ultimate, εc =	0.003000	
Compression depth, z = εc * d / (εc + εs) =	4.61	in
Steel compressive strain at ultimate, εs' = εc * (z-d') / z =	-0.000902	
Depth of concrete compression block, a = .85 * z =	3.9148225	in
Consider a unit width, b =	12	in
Concrete compressive stress at ultimate, fc = -.85 * f'c =	-3060	psi
Concrete compressive force, Cc = fc * a * b =	-143752.3	lb
Steel compressive stress, σs' = -εs' * Es =	26149.574	psi
Steel compressive force, Cs = σs' * As' =	40793.335	lb
Steel tensile stress , σs = εs * Es =	66000	psi (max = DIF*fy)
Steel tensile force, Ts = σs * As =	102960	lb
Total Force (should be approximately zero) =	1.1	lb

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 262

Moment Capacity of the pad (per unit length) about the Y-axis (about longitudinal) **(dynamic)**
Tension on top

y = Distance from CL of section to Force	y (in)	Moment (lb-in)
Concrete in compression, yc = D/2 - a/2 =	16.042589	2306159
Compression steel, ys' = D/2 - d' =	12.01	-489928
Tensile steel, ys = d - D/2 =	13.01	1339510

Moment capacity (per unit foot width) = 3155740 lb-in/ft

= 263.0 k-ft/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/13/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	263

Check Moments for Accident-Level Loading Condition (D + L + H + E < ϕ * Mn)

1. -Myy (about X, tension on bottom)

Demand:	D + L + H +E =	18	+ 185 =	203 k-ft/ft	(2LB)
Capacity:	ϕ * Mn =	0.90	x 258 =	232 k-ft/ft	

2. +Myy (about X, tension on top)

Demand:	D + L + H +E =	0	+ 113 =	113 k-ft/ft	(8LFTH)
Capacity:	ϕ * Mn =	0.90	x 269 =	242 k-ft/ft	

3. -Mxx (about Y, tension on bottom)

Demand:	D + L + H +E =	12	+ 206 =	218 k-ft/ft	(4BE)
Capacity:	ϕ * Mn =	0.90	x 250 =	225 k-ft/ft	

4. +Mxx (about Y, tension on top)

Demand:	D + L + H +E =	4	+ 129 =	133 k-ft/ft	(8BFTH)
Capacity:	ϕ * Mn =	0.90	x 263 =	237 k-ft/ft	

Notes:
X = transverse axis
Y = longitudinal axis
+M = tension on top surface
-M = tension on bottom surface

Demand moments for D and H load cases are 0.0
ϕ = Strength reduction factor as per ACI 349-85, 9.3.2.

CALCULATION SHEET

ORIGINATOR	TH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KK	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 26

Calculate Shear Capacity of the Pad

	Number Each Way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Shear Reinforcement:	1	7	0.875	0.6	0.6

fy = 60000 psi

Concrete: f'c= 3000 psi

For a one foot width:

s = 12 in

bw = 12 in

d = 30 in

Nominal Shear Strength provided by concrete, Vc = 2 * sqrt(f'c) * bw * d = 39436 lb/ft 11.3.1.1

Nominal Shear Strength provided by shear reinf, Vs = Av * fy * d / s = 90000 lb/ft 11.5.6.2

Nominal Shear Strength, Vn = Vc + Vs = 129436 lb/ft 11.1.1

= 129.4 k/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	265

Check Shear for Normal Loading Condition (1.4D + 1.7L + 1.7H < ϕ * Mn)

Demand:	1.4D + 1.7L + 1.7H =	1.7	x 11.0 =	18.7 k/ft
Capacity:	ϕ * Vn =	0.85	x 129 =	110 k/ft

Check Shear for Accident-Level Loading Condition (D + L + H + E < DIF * ϕ * Mn)

Demand:	D + L + H +E =		11	+ 47 =	58 k/ft
Capacity:	DIF * ϕ * Mn =	1.1	x 0.85	x 129 =	121.0 k/ft

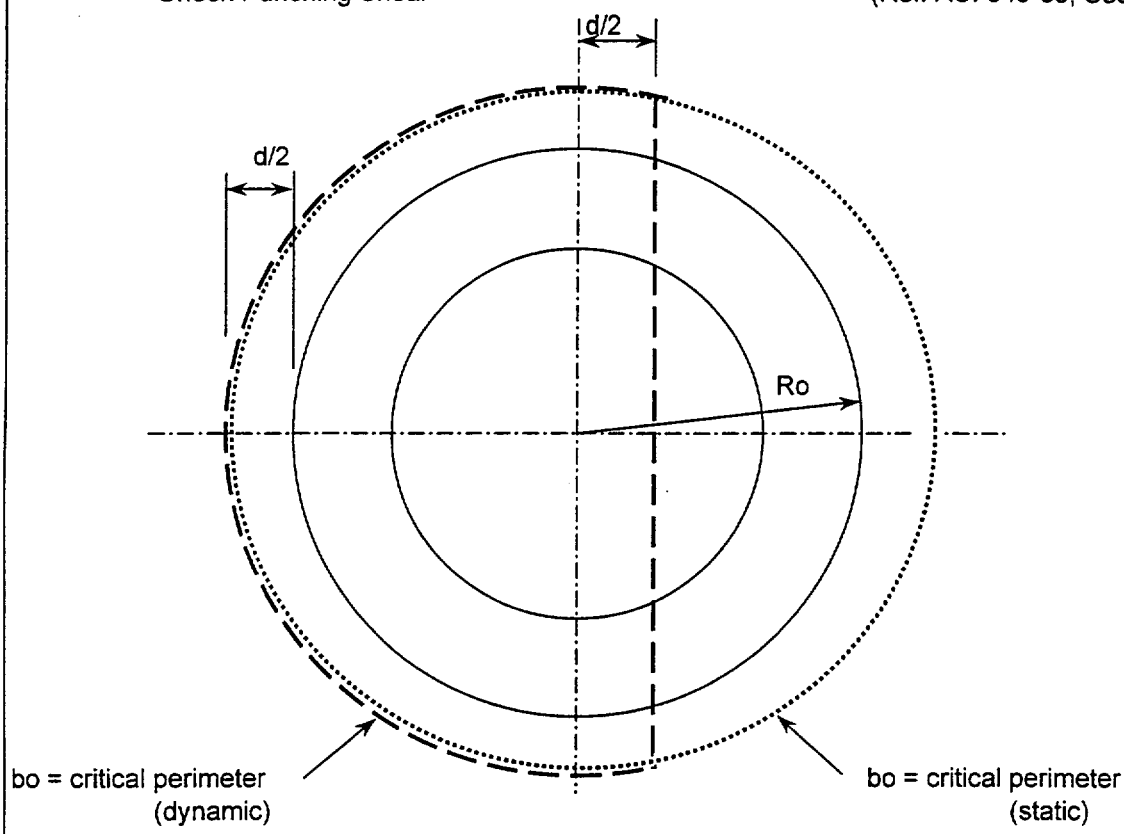
Notes: X = transverse axis
Y = longitudinal axis

Demand moments for D and H load cases are 0.0
ϕ = Strength reduction factor as per ACI 349-85, 9.3.2.
DIF = Dynamic Increase Factor as per ACI 349-85, C.2.1.

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 266

Check Punching Shear (Ref. ACI 349-85, Section 11.11.1.2)



Plan

d = 30 in
or d = 2.5 ft
Ro = 5.02 ft
bo = π *(Ro + d/2) + d + 2*(Ro + d/2) 34.74 ft

Concrete: f'c = 3000 psi
Reinf: fy = 60000 psi

Dead Weight of one cask, W = 360 k

Static:

Punching shear demand (static) = W / [pi * (2 * Ro + d)] =
=360 / [pi * (2 * 5.02 + 2.50)] = 9.1 k/ft

Punching shear capacity (static) = ϕ * Vn / bo =
= 0.85 * 4496.3 / 34.74 = 110.0 k/ft (Vn from page 268)

where Strength reduction factor, ϕ = 0.85 9.3.2(d)

Check Punching Shear

Punching shear will be checked for the cask with the largest vertical forces.
The cask with the largest vertical forces is cask #1 of the 2 cask, lower bound soil case

Dead Weight of one cask, W = 360 k

The forces on cask #1 are as follows:

Quadrant	Vertical Force, V (k)	V+W/4 (k)
q1	547.5	637.5
q2	1396.0	1486.0
q3	3799.0	3889.0
q4	708.0	798.0

Assume the cask tips so that the 3 largest forces are applied.

Demand, D = q2/2 + q3 + q4/2 = 5031.0 k

Reduced resistance requirement taking ductility into account

For shear carried by concrete and stirrups, μ = 1.6 * (C.3.7(b))

sqrt(2μ-1) = 1.4832397

Reduced Demand, Vu = D/sqrt(2μ-1) = 3391.9 k

* See following pages for derivation of μ.

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. 268

Check Punching Shear

Calculate Punching Shear Capacity (Ref. ACI 349-85, Section 11.11.3)

Concrete shear capacity, Vc = 2*sqrt(f'c)*bo*d = 1369920 lb 11.11.3.4

Steel Reinforcement = 1 - #7 @ 12 inch spacing Av = 0.60 sq. in/ft.

Steel shear capacity, Vs = Av* fy * d / s * bo = 3126401 lb 11.5.6.2

Total shear strength, Vn = Vc + Vs = 4496321 lb
= 4496.3 k

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED KL	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	269

Check Punching Shear

$Vu < \phi * DIF * Vn = \phi * DIF * (Vc + Vs)$ 11.1.1

Strength reduction factor, ϕ =	0.85	9.3.2(d)
Dynamic Increase Factor, DIF =	1.1	C.2.1

Demand:

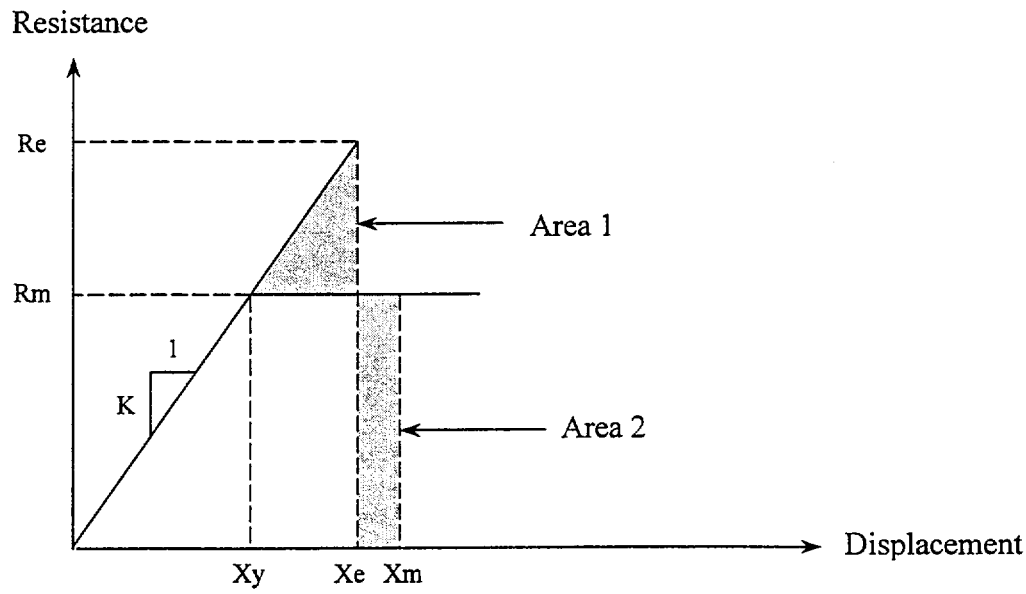
Vu =		3391.9 k
Vu/bo =	3391.9 / 34.74 =	97.6 k/ft

Capacity:

ϕ * DIF* (Vc + Vs) =	0.85 * 1.10 * (4496.3) =	4204.1 k
ϕ * DIF* (Vc + Vs) / bo =	4204.1 / 34.74 =	121.0 k/ft

Derivation of reduced capacity taking credit of permissible ductility ratio (μ) as per ACI 349-85 (1990) Section C.3.7(b)

Definition:



$$\mu = \frac{X_m}{X_y} = \text{Ductility Ratio;} \quad X_m = \mu X_y$$

Re = Elastic Resistance Capacity Required

Rm = Inelastic Resistance Capacity Required

K = Equivalent Stiffness

$$X_y = \frac{R_m}{K} \quad ; \qquad X_e = \frac{R_e}{K}$$

Use "Energy Balance Principle" → Area 1 = Area 2

$$\text{Area 1} = \frac{1}{2}(R_e - R_m)(X_e - X_y)$$

$$= \frac{1}{2}(R_e - R_m)(R_e - R_m)/K$$

$$= \frac{1}{2K}(R_e - R_m)^2$$

$$\text{Area (2)} = R_m(X_m - X_e) = R_m\left(\mu\frac{R_m}{K} - \frac{R_e}{K}\right)$$

$$= \frac{1}{K}\left(\mu R_m^2 - R_e R_m\right)$$

Area (1) = Area (2) leads to:

$$\frac{1}{2K}(R_e - R_m)^2 = \frac{1}{K}\left(\mu R_m^2 - R_e R_m\right)$$

$$\left(R_e^2 + R_m^2 - 2R_e R_m\right) = 2\mu R_m^2 - 2R_e R_m$$

$$R_e^2 = (2\mu - 1)R_m^2$$

$$\therefore R_m = \frac{R_e}{\sqrt{2\mu - 1}}$$

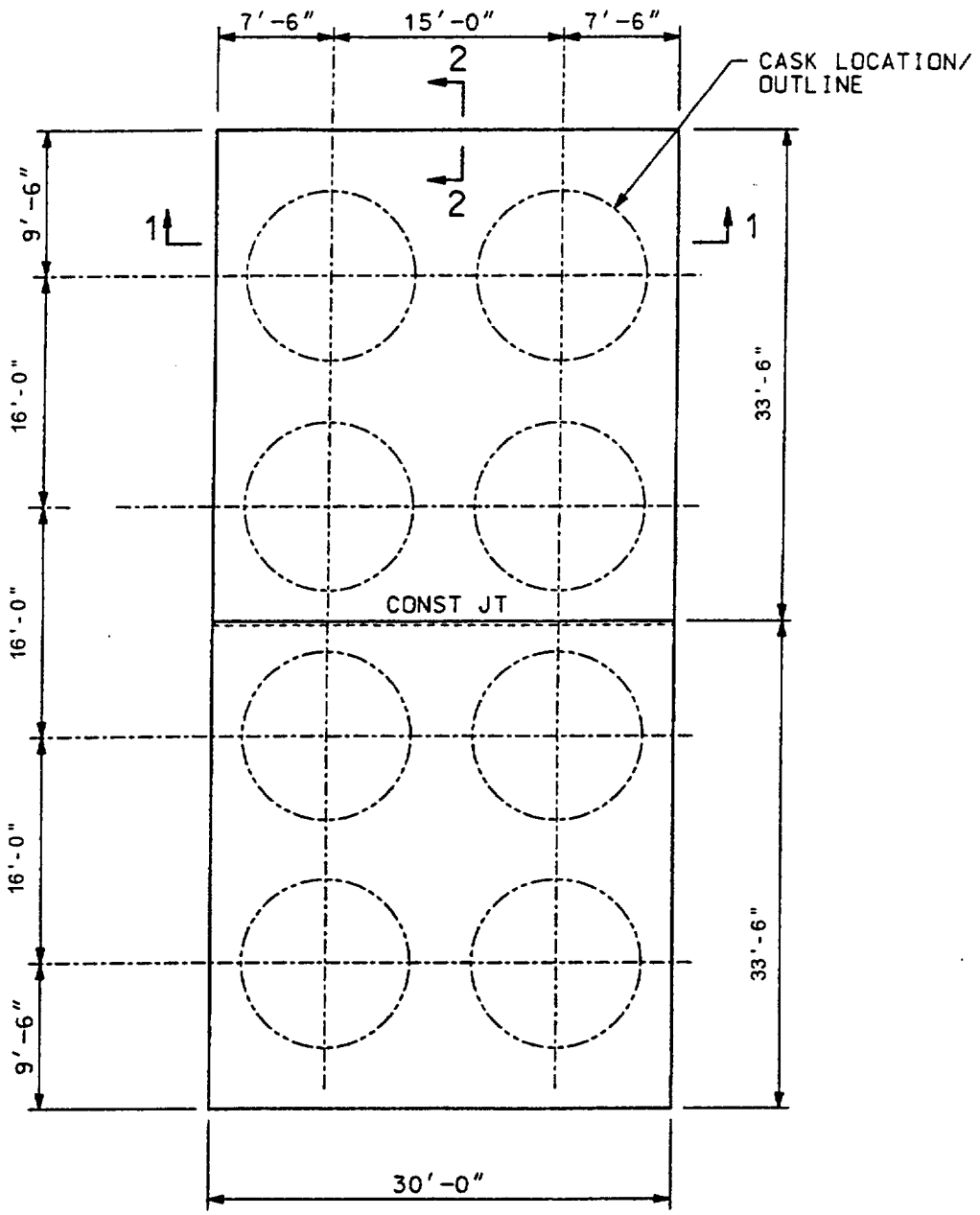
As per ACI 349-85(1990), Section C.3.7(b): $\mu = 1.6$

$$\therefore R_m = \frac{R_e}{\sqrt{2 \times 1.6 - 1}} = \frac{R_e}{\sqrt{2.2}} = 0.674R_e$$

$$R_m = 0.674R_e \text{ for } \mu = 1.6$$

CALCULATION SHEET

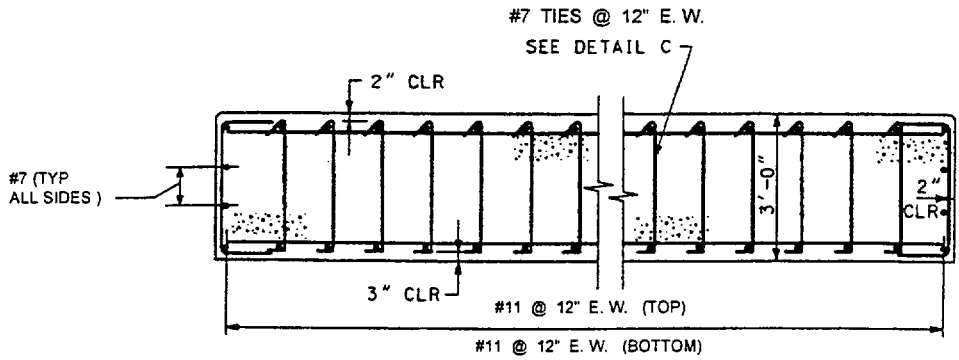
ORIGINATOR	DH	DATE	3/16/01
CALC. NO.	G(PO17)-2	REV. NO.	3
CHECKED	[illegible]	DATE	4/3/01
PROJECT	Private Fuel Storage Facility	JOB NO.	1101-001
SUBJECT	Storage Pad Analysis and Design	SHEET NO.	273



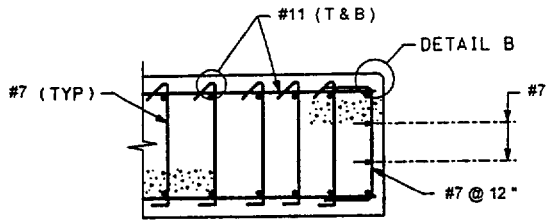
PLAN
CASK STORAGE PAD
(500 REQD)

CALCULATION SHEET

ORIGINATOR DH DATE 3/16/01 CALC. NO. G(PO17)-2 REV. NO. 3
CHECKED KL DATE 4/3/01
PROJECT Private Fuel Storage Facility JOB NO. 1101-000
SUBJECT Storage Pad Analysis and Design SHEET NO. 274



1-1



2-2

6.2 Vertical Soil Bearing Pressures and Horizontal Soil Shear Stresses

Vertical soil bearing pressures for individual loadings and combined loadings are Summarized in Table 4.

Horizontal soil shear stresses are shown in Tables D-1(a) and (b), and the total horizontal soil reactions (shear forces) in both the short (x) and long (y) directions of the pad are summarized in Table D-1(c).

CALCULATION SHEET

			CALC. NO. G(PO17)-2	REV. NO.	3
ORIGINATOR	kv	DATE 3/27/01	CHECKED	DATE	4-05-01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET	276

Table 4
Summary of Vertical Soil Bearing Pressures (ksf)

Loading	Point	287	293	299	144	150	156	1	7	13
2 - Cask	Pad DL	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	Snow LL	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
	Cask LL	1.345	1.352	1.345	0.185	0.199	0.185	0	0	0
	Pad EQ	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
	Cask EQ	4.11	3.9	3.18	0.84	0.52	0.56	0	0	0
	100% Vert	6.26	6.06	5.33	1.83	1.53	1.55	0.81	0.81	0.81
4-Cask	Pad DL	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	Snow LL	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
	Cask LL	1.712	1.712	1.712	0.757	0.758	0.757	0	0	0
	Pad EQ	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
	Cask EQ	2.75	3.45	3.76	2.69	2.16	1.86	0	0	0
	100% Vert	5.27	5.97	6.28	4.25	3.73	3.42	0.81	0.81	0.81
8-Cask	Pad DL	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	Snow LL	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
	Cask LL	1.402	1.402	1.402	1.514	1.516	1.514	1.402	1.402	1.402
	Pad EQ	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
	Cask EQ	2.71	2.08	4.24	4.41	2.59	4.69	5.14	4.32	4.94
	100% Vert	4.92	4.29	6.45	6.73	4.91	7.01	7.35	6.53	7.15

Notes:
1. Values for Pad DL are obtained from Table S-1.
2. Values for snow LL are obtained from Table S-2.
3. Values for Cask LL are obtained from Table S-2.
4. Pad EQ pressure = (pad wt.)xa_v, where pad wt.=904.5 kips, and a_v=.695g.
5. Values for Cask EQ are obtained from Table D-1(d).
6. EQ pressures listed are the envelopes of results for all soil conditions.
7. Node numbers are shown in Figure 5.1-1.

APPENDIX A

CALCULATION OF DYNAMIC INCREASE FACTORS (DIFs)

FOR

CONCRETE AND STEEL

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KN	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. A-2

Procedure:

1. Obtain moment time history from CECSAP analysis.
2. From moment time history, determine strain time history.
3. From the strain time history, determine the strain rate.
4. From the strain rate, determine the dynamic increase factors (DIFs).

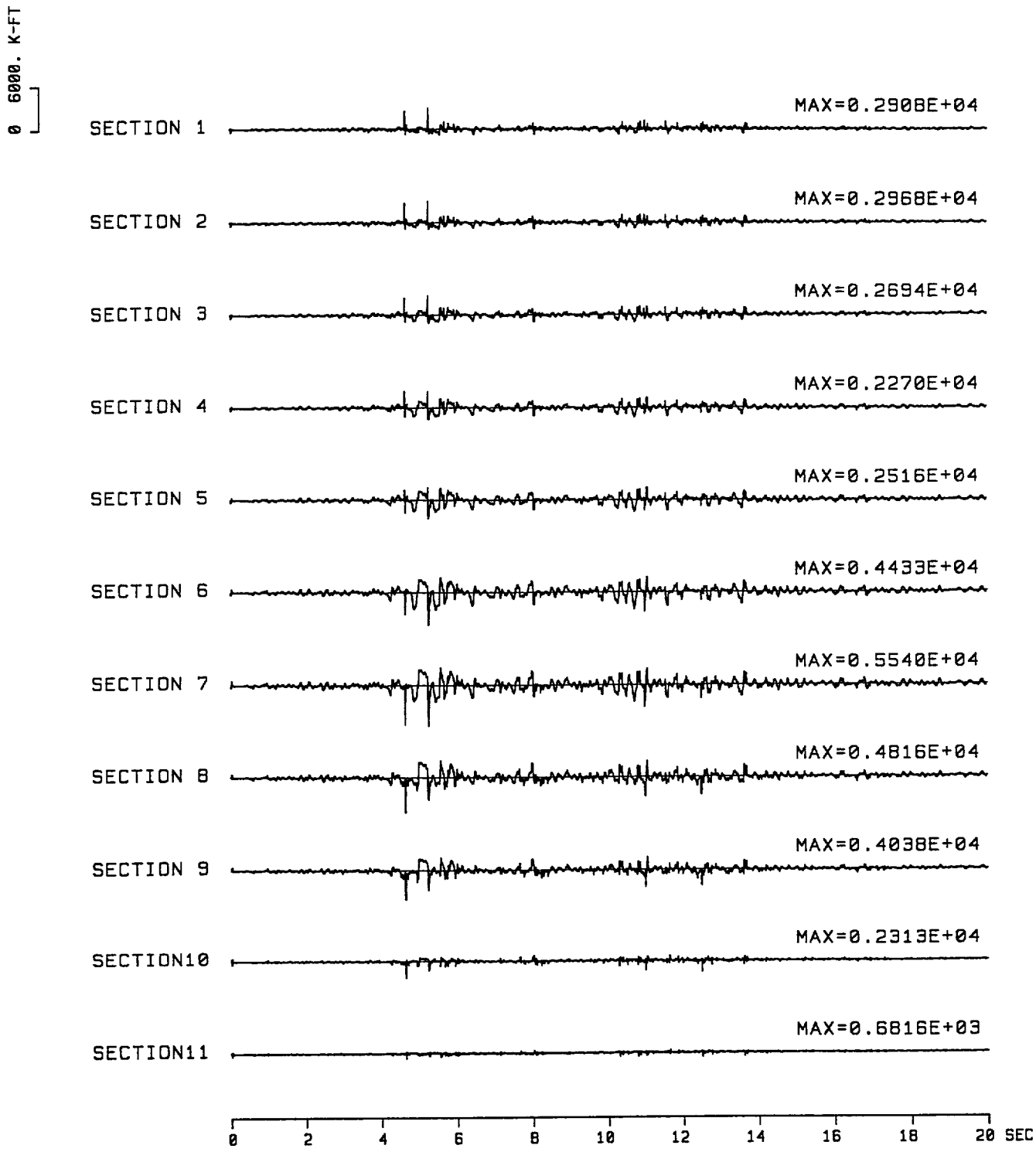
The case with the maximum bending moment is the 2 cask, lower bound case.

The moment time histories for the case with the maximum bending moment are shown on the following page. The maximum moment occurs at Section 7.

For the location of the sections, see the figure on page 50.

The data is given in Attachment A-3.
A partial listing of the data is also given on page 60.

LOWER-BOUND, 2 CASKS, TOTAL MYY OF SECTION, 2LMYY.TOT

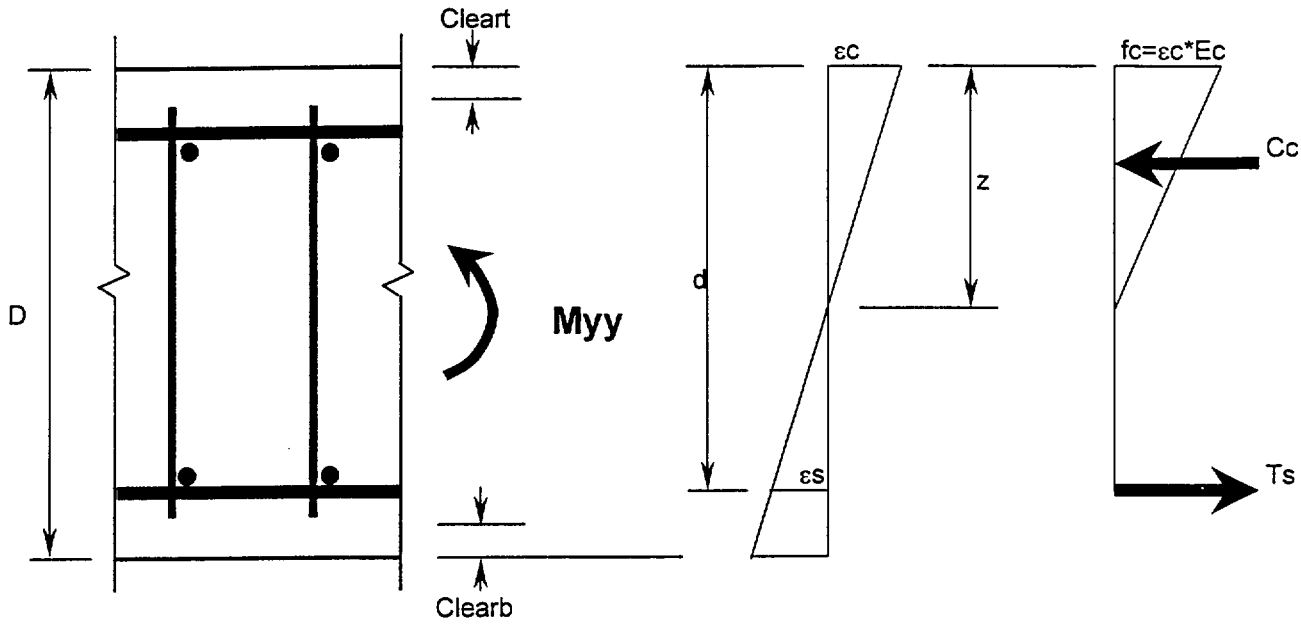


CEC JOB NO. 1101-006
BY DH DATE 3/16/01
CHECK [illegible] DATE 4/3/01
CALC. NO. 1101-001 REV. NO. 3
SHEET NO. A-4

F:\PFSF2\APP_A\PLOT2L.INP 3/16/ 1

CALCULATION SHEET

ORIGINATOR	DH	DATE	3/16/01	CALC. NO. G(PO17)-2	REV. NO. 3
				CHECKED KK	DATE 4/3/01
PROJECT	Private Fuel Storage Facility				JOB NO. 1101-000
SUBJECT	Storage Pad Analysis and Design				SHEET NO. A-5



Section 1-1
(Ref. Fig. 6-1)

Strain

Forces

Reinforce-ment Location	Number Each way (per foot)	Size	Diameter (in)	Area of one bar (sq. in)	Total Area, As (sq. in)
Top	1	11	1.41	1.56	1.56
Bottom	1	11	1.41	1.56	1.56
Shear	1	7	0.875	0.6	0.6

Total Depth, D =	36 in
Top clearance, Cleart =	2 in
Bottom clearance, Clearb =	3 in
Comp face to CL of tensile rebar, d = D - Clearb - 1.41/2 - 0.875=	31.42 in
Consider a unit width, b =	12 in

For a given moment, M, calculate the strain in the concrete and reinforcing steel:

Concrete:

f'c = 3000 psi

Ec = 3122019 psi (=57000*sqrt(f'c))

Steel:

fy = 60000 psi

Es = 29000000 psi

For balanced condition:

ρb = 0.85*0.85*f'c/fy*87000/(87000+fy) =	0.0214
0.75 * ρb =	0.0160
ρ = As/b/d =	0.0041

Since ρ < (0.75 * ρb), the strength of the reinforced concrete beam shown on the previous page can be approximately determined by disregarding the compression rebars (Ref. 17). This will be done on the following pages.

For a given moment, M, calculate the strain in the concrete and reinforcing steel:

Let strain, $\varepsilon < 0$ indicate compression.

Let strain, $\varepsilon > 0$ indicate tension.

Compressive force, $C = \varepsilon c * Ec * z * b / 2$

Tensile force, $T = \varepsilon s * Es * As$

Equilibrium of forces ==> $C + T = 0$ or

$$\varepsilon c * Ec * z * b / 2 + \varepsilon s * Es * As = 0 \quad (1)$$

Equilibrium of moments ==> $-C * 2z/3 + T * (d - z) = M$ or

$$-\varepsilon c * Ec * c * c * b / 3 + \varepsilon s * Es * As * (d - c) = M \quad (2)$$

From the geometry of the strains ==> $\varepsilon s/(d-c) = -\varepsilon c/c$ or

$$\varepsilon c = c * \varepsilon s / (c - d) \quad (3)$$

(1), (2), and (3) form three equations in three unknowns.

Solving for z, εc, and εs:

$$X*z*z + Y*z + Z = 0 \quad \text{where} \quad (4)$$

$X = b$
$Y = 2 * Es / Ec * As$
$Z = - 2 * d * Es / Ec * As$

Solve (4) for z, then:

$$\varepsilon c = -2 * Es * As * \varepsilon s / (z * b * Ec) \quad (5)$$

$$\varepsilon s = 3 * M / z / [Es * As * (2 + 3 * (d - z) / z)] \quad (6)$$

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/16/01	CALC. NO. G(PO17)-2	REV. NO.	3
PROJECT	Private Fuel Storage Facility		CHECKED KW	DATE	4/3/01
SUBJECT	Storage Pad Analysis and Design			JOB NO.	1101-000
				SHEET NO.	E-8

Calculation of strain rate for determining Dynamic Impact Factor
(ref. ACI 394-85, Section C.2, and Commentary)

From the time history plot of the bending moment, the maximum moment occurs at 5.265 seconds.

The strain will be calculated at time steps before and after the time of the maximum.

(width= 30 ft)

Time =	5.26 sec	5.265 sec	5.27 sec
Myy=	2884.5 k-ft	5540.3 k-ft	5032.3 k-ft
Myy/width =	96.2 k-ft/ft	184.7 k-ft/ft	167.7 k-ft/ft
=	1153800 lb-in/ft	2216120 lb-in/ft	2012920 lb-in/ft
1 - #11 ==> As=	1.56 sq. in	1.56 sq. in	1.56 sq. in
Using equation (4):			
X = b =	12 in	12 in	12 in
Y = 2*Es/Ec*As =	28.98125	28.98125	28.98125
Z = -2d*Es/Ec*As =	-910.5909	-910.5909	-910.5909
sqrt(Y*Y-4XZ) =	211.06462	211.06462	211.06462
Solve quadratic for z:			
z1 =	7.5868072 in	7.5868072 in	7.5868072 in
z2 =	-10.00191 in	-10.00191 in	-10.00191 in
Check:			
X*z1*z1+Y*z1+Z=	0	0	0
X*z2*z2+Y*z2+Z=	0	0	0
Using equation (6):			
εs =	0.0008828 in/in	0.0016955 in/in	0.0015401 in/in
Using equation (5):			
εc =	-0.000281 in/in	-0.000540 in/in	-0.000490 in/in

Check:

Compression, C =	-39936.22 lb/ft	-76706.07 lb/ft	-69672.75 lb/ft
Tension, T =	39936.223 lb/ft	76706.07 lb/ft	69672.753 lb/ft
Moment, M =	1153800 lb-in/ft	2216120 lb-in/ft	2012920 lb-in/ft

CALCULATION SHEET

ORIGINATOR	DH	DATE 3/19/01	CALC. NO. G(PO17)-2	REV. NO.	3
			CHECKED	DATE	4/3/01
PROJECT	Private Fuel Storage Facility			JOB NO.	1101-000
SUBJECT	Storage Pad Analysis and Design			SHEET NO.	A-9

Calculate DIF for concrete (shear) :

	Time 5.260 to 5.265 (Loading)	Time 5.265 to 5.270 (Unloading)	
Strain rate, SR = $\Delta(\varepsilon c)/\Delta t$ =	0.051746 in/in/sec	0.009898 in/in/sec	
log(SR) =	-1.286124	-2.004456	
$[0.90 + 0.10 (\log SR + 5.0)]^{1/2}$ =	1.13	1.10	(Ref. 15, Table C-1)
max. allowable DIF =	1.25	1.25	
DIF =	1.13	1.10	

Calculate DIF for concrete (axial and flexural compression) :

	Time 5.260 to 5.265 (Loading)	Time 5.265 to 5.270 (Unloading)	
Strain rate, SR = $\Delta(\varepsilon c)/\Delta t$ =	0.051746 in/in/sec	0.009898 in/in/sec	
log(SR) =	-1.286124	-2.004456	
0.90 + 0.10 (log SR + 5.0) =	1.27	1.20	(Ref. 15, Table C-1)
max. allowable DIF =	1.25	1.25	
DIF =	1.25	1.20	

Calculate DIF for Grade 60 reinforcing steel:

Strain rate, SR = $\Delta(\varepsilon c)/\Delta t$ =	0.162555 in/in/sec	0.031093 in/in/sec	
log(SR) =	-0.789001	-1.507332	
1.0 + 0.02625 (log SR + 5.9) =	1.13	1.12	(Ref. 15, Table C-1)
max. allowable DIF =	1.10	1.10	
DIF =	1.10	1.10	