Table 3.AA.40 (continued)

599	725.00	135.19	15400.	113.91
2	725.00	135.18	15400.	113.92
742	725.00	-135.08	15400.	114.01
1130	725.00	-134.37	15400.	114.61
598	725.00	134.34	15400.	114.63
3	725.00	134.33	15400.	114.64
743	725.00	-134.23	15400.	114.73
1129	725.00	-133.52	15400.	115.33
597	725.00	133.49	15400.	115.36
4	725.00	133.48	15400.	115.37
744	725.00	-133.38	15400.	115.46
596	725.00	132.65	15400.	116.10
5	725.00	132.63	15400.	116.11
595	725.00	131.80	15400.	116.85
6	725.00	131.79	15400.	116.86
787	725.00	-130.38	15400.	118.12
1494	725.00	-130.36	15400.	118.13
788	725.00	-130.28	15400.	118.20
1493	725.00	-130.27	15400.	118.22
789	725.00	-129.44	15400.	118.98
1492	725.00	-129.42	15400.	118.99
790	725.00	-128.59	15400.	119.76
1491	725.00	-128.57	15400.	119.78
667	725.00	-128.31	15400.	120.02
462	725.00	-128.31	15400.	120.03
668	725.00	-128.22	15400.	120.11
461	725.00	-128.21	15400.	120.11
791	725.00	-127.74	15400.	120.56
1490	725.00	-127.72	15400.	120.57
669	725.00	-127.37	15400.	120.91
460	725.00	-127.36	15400.	120.91
792	725.00	-126.89	15400.	121.37
402	725.00	126.89	15400.	121.37
79	725.00	126.88	15400.	121.37
1489	725.00	-126.88	15400.	121.38
401	725.00	126.80	15400.	121.46
80	725.00	126.79	15400.	121.46
670	725.00	-126.52	15400.	121.72
459	725.00	-126.52	15400.	121.72
72	725.00	126.10	15400.	122.12
193	725.00	126.10	15400.	122.12
71	725.00	126.01	15400.	122.21
194	725.00	126.01	15400.	122.21
400	725.00	125.95	15400.	122.27
81	725.00	125.94	15400.	122.28
671	725.00	-125.67	15400.	122.54
458	725.00	-125.67	15400.	122.55
840	725.00	125.19	15400.	123.02
25	725.00	125.17	15400.	123.03
70	725.00	125.16	15400.	123.04
195	725.00	125.16	15400.	123.04
399	725.00	125.10	15400.	123.10
839	725.00	125.10	15400.	123.11

Table 3.AA.40 (continued)

82	725.00	125.09	15400.	123.11
26	725.00	125.08	15400.	123.12
672	725.00	-124.83	15400.	123.37
457	725.00	-124.82	15400.	123.38
69	725.00	124.32	15400.	123.88
196	725.00	124.32	15400.	123.88
398	725.00	124.25	15400.	123.94
838	725.00	124.25	15400.	123.95
83	725.00	124.24	15400.	123.95
27	725.00	124.23	15400.	123.97
68	725.00	123.47	15400.	124.73
197	725.00	123.47	15400.	124.73
397	725.00	123.40	15400.	124.80
837	725.00	123.40	15400.	124.80
84	725.00	123.39	15400.	124.80
28	725.00	123.38	15400.	124.82
67	725.00	122.62	15400.	125.59
198	725.00	122.62	15400.	125.59
217	725.00	122.57	15400.	125.64
240	725.00	122.57	15400.	125.64
836	725.00	122.55	15400.	125.66
29	725.00	122.53	15400.	125.68
218	725.00	122.48	15400.	125.73
239	725.00	122.48	15400.	125.73
835	725.00	121.70	15400.	126.54
30	725.00	121.68	15400.	126.56
219	725.00	121.63	15400.	126.61
238	725.00	121.63	15400.	126.61
220	725.00	120.78	15400.	127.50
237	725.00	120.78	15400.	127.50
221	725.00	119.94	15400.	128.40
236	725.00	119.94	15400.	128.40
241	725.00	119.54	15400.	128.82
432	725.00	119.54	15400.	128.82
242	725.00	119.45	15400.	128.92
431	725.00	119.45	15400.	128.92
222	725.00	119.09	15400.	129.32
235	725.00	119.09	15400.	129.32
243	725.00	118.60	15400.	129.84
430	725.00	118.60	15400.	129.85
244	725.00	117.75	15400.	130.78
429	725.00	117.75	15400.	130.78
499	725.00	-117.70	15400.	130.84
894	725.00	-117.69	15400.	130.85
500	725.00	-117.61	15400.	130.94
893	725.00	-117.60	15400.	130.95
245	725.00	116.91	15400.	131.73
428	725.00	116.90	15400.	131.73
501	725.00	-116.76	15400.	131.89
892	725.00	-116.75	15400.	131.90
216	725.00	116.69	15400.	131.98
49	725.00	116.68	15400.	131.99
215	725.00	116.59	15400.	132.08

Table 3.AA.40 (continued)

50	725.00	116.58	15400.	132.09
583	725.00	116.34	15400.	132.37
18	725.00	116.34	15400.	132.37
7	725.00	116.32	15400.	132.39
594	725.00	116.32	15400.	132.40
265	725.00	116.29	15400.	132.43
648	725.00	116.29	15400.	132.43
584	725.00	116.25	15400.	132.48
17	725.00	116.25	15400.	132.48
8	725.00	116.23	15400.	132.50
593	725.00	116.23	15400.	132.50
266	725.00	116.20	15400.	132.53
647	725.00	116.19	15400.	132.54
246	725.00	116.06	15400.	132.69
427	725.00	116.06	15400.	132.69
1074	725.00	115.95	15400.	132.82
151	725.00	115.92	15400.	132.84
502	725.00	-115.91	15400.	132.86
891	725.00	-115.90	15400.	132.87
1073	725.00	115.86	15400.	132.92
152	725.00	115.83	15400.	132.95
214	725.00	115.75	15400.	133.05
51	725.00	115.73	15400.	133.06
585	725.00	115.40	15400.	133.45
16	725.00	115.40	15400.	133.45
9	725.00	115.38	15400.	133.47
592	725.00	115.38	15400.	133.47
267	725.00	115.35	15400.	133.51
646	725.00	115.35	15400.	133.51
503	725.00	-115.06	15400.	133.84
890	725.00	-115.05	15400.	133.85
1072	725.00	115.01	15400.	133.90
153	725.00	114.98	15400.	133.93
213	725.00	114.90	15400.	134.03
52	725.00	114.89	15400.	134.05
586	725.00	114.55	15400.	134.44
15	725.00	114.55	15400.	134.44
10	725.00	114.53	15400.	134.46
591	725.00	114.53	15400.	134.46
268	725.00	114.50	15400.	134.50
645	725.00	114.50	15400.	134.50
504	725.00	-114.21	15400.	134.83
889	725.00	-114.20	15400.	134.85
1071	725.00	114.16	15400.	134.90
154	725.00	114.14	15400.	134.93
212	725.00	114.05	15400.	135.03
53	725.00	114.04	15400.	135.04
31	725.00	114.03	15400.	135.05
834	725.00	114.03	15400.	135.05
32	725.00	113.94	15400.	135.16
833	725.00	113.94	15400.	135.16
587	725.00	113.70	15400.	135.44
14	725.00	113.70	15400.	135.44

Table 3.AA.40 (continued)

11	725.00	113.68	15400.	135.47
590	725.00	113.68	15400.	135.47
269	725.00	113.65	15400.	135.50
644	725.00	113.65	15400.	135.51
1266	725.00	113.52	15400.	135.66
175	725.00	113.51	15400.	135.68
1265	725.00	113.43	15400.	135.77
176	725.00	113.41	15400.	135.79
1070	725.00	113.31	15400.	135.91
155	725.00	113.29	15400.	135.94
211	725.00	113.20	15400.	136.04
54	725.00	113.19	15400.	136.06
289	725.00	113.10	15400.	136.16
888	725.00	113.10	15400.	136.16
33	725.00	113.09	15400.	136.18
832	725.00	113.09	15400.	136.18
290	725.00	113.01	15400.	136.27
887	725.00	113.01	15400.	136.27
588	725.00	112.85	15400.	136.46
13	725.00	112.85	15400.	136.46
12	725.00	112.83	15400.	136.49
589	725.00	112.83	15400.	136.49
270	725.00	112.80	15400.	136.52
643	725.00	112.80	15400.	136.53
1264	725.00	112.58	15400.	136.79
177	725.00	112.57	15400.	136.81
1069	725.00	112.46	15400.	136.93
156	725.00	112.44	15400.	136.96
34	725.00	112.24	15400.	137.20
831	725.00	112.24	15400.	137.21
291	725.00	112.16	15400.	137.30
886	725.00	112.16	15400.	137.31
763	725.00	-111.98	15400.	137.52
764	725.00	-111.89	15400.	137.63
1326	725.00	-111.85	15400.	137.69
1325	725.00	-111.76	15400.	137.80
1263	725.00	111.73	15400.	137.83
178	725.00	111.72	15400.	137.85
408	725.00	111.68	15400.	137.90
73	725.00	111.67	15400.	137.91
407	725.00	111.58	15400.	138.01
74	725.00	111.58	15400.	138.02
35	725.00	111.39	15400.	138.25
830	725.00	111.39	15400.	138.25
292	725.00	111.31	15400.	138.35
885	725.00	111.31	15400.	138.35
765	725.00	-111.04	15400.	138.69
1324	725.00	-110.91	15400.	138.85
1262	725.00	110.88	15400.	138.89
179	725.00	110.87	15400.	138.90
406	725.00	110.74	15400.	139.07
75	725.00	110.73	15400.	139.08
36	725.00	110.54	15400.	139.31

Table 3.AA.40 (continued)

829	725.00	110.54	15400.	139.31
293	725.00	110.46	15400.	139.41
884	725.00	110.46	15400.	139.42
313	725.00	110.29	15400.	139.63
1104	725.00	110.29	15400.	139.64
314	725.00	110.20	15400.	139.75
1103	725.00	110.19	15400.	139.75
766	725.00	-110.19	15400.	139.75
1323	725.00	-110.06	15400.	139.93
1261	725.00	110.03	15400.	139.96
180	725.00	110.02	15400.	139.98
405	725.00	109.89	15400.	140.14
76	725.00	109.88	15400.	140.15
294	725.00	109.61	15400.	140.49
883	725.00	109.61	15400.	140.49
624	725.00	109.42	15400.	140.74
97	725.00	109.42	15400.	140.74
315	725.00	109.35	15400.	140.83
1102	725.00	109.35	15400.	140.84
767	725.00	-109.34	15400.	140.84
623	725.00	109.33	15400.	140.86
98	725.00	109.33	15400.	140.86
1322	725.00	-109.21	15400.	141.01
404	725.00	109.04	15400.	141.24
77	725.00	109.03	15400.	141.25
316	725.00	108.50	15400.	141.94
1101	725.00	108.50	15400.	141.94
768	725.00	-108.50	15400.	141.94
622	725.00	108.48	15400.	141.96
99	725.00	108.48	15400.	141.96
1321	725.00	-108.36	15400.	142.12
403	725.00	108.19	15400.	142.34
78	725.00	108.18	15400.	142.35
210	725.00	108.02	15400.	142.57
55	725.00	108.02	15400.	142.57
209	725.00	107.93	15400.	142.69
56	725.00	107.92	15400.	142.69
121	725.00	107.72	15400.	142.96
864	725.00	107.72	15400.	142.96
317	725.00	107.65	15400.	143.06
1100	725.00	107.65	15400.	143.06
621	725.00	107.63	15400.	143.08
100	725.00	107.63	15400.	143.08
122	725.00	107.63	15400.	143.08
863	725.00	107.63	15400.	143.08
337	725.00	107.55	15400.	143.18
1296	725.00	107.55	15400.	143.19
338	725.00	107.46	15400.	143.31
1295	725.00	107.46	15400.	143.31
199	725.00	107.25	15400.	143.59
66	725.00	107.25	15400.	143.60
200	725.00	107.16	15400.	143.72
65	725.00	107.15	15400.	143.72

Table 3.AA.40 (continued)

208	725.00	107.08	15400.	143.82
57	725.00	107.07	15400.	143.83
318	725.00	106.80	15400.	144.19
1099	725.00	106.80	15400.	144.20
620	725.00	106.79	15400.	144.21
101	725.00	106.78	15400.	144.22
123	725.00	106.78	15400.	144.22
862	725.00	106.78	15400.	144.22
339	725.00	106.61	15400.	144.45
1294	725.00	106.61	15400.	144.45
201	725.00	106.31	15400.	144.86
64	725.00	106.31	15400.	144.87
207	725.00	106.23	15400.	144.97
58	725.00	106.23	15400.	144.97
619	725.00	105.94	15400.	145.37
102	725.00	105.93	15400.	145.37
124	725.00	105.93	15400.	145.38
861	725.00	105.93	15400.	145.38
340	725.00	105.76	15400.	145.61
1293	725.00	105.76	15400.	145.61
202	725.00	105.46	15400.	146.03
63	725.00	105.46	15400.	146.03
206	725.00	105.38	15400.	146.14
59	725.00	105.38	15400.	146.14
125	725.00	105.08	15400.	146.55
860	725.00	105.08	15400.	146.55
341	725.00	104.92	15400.	146.79
1292	725.00	104.91	15400.	146.79
145	725.00	104.74	15400.	147.03
1080	725.00	104.73	15400.	147.04
146	725.00	104.65	15400.	147.16
1079	725.00	104.64	15400.	147.17
203	725.00	104.61	15400.	147.21
62	725.00	104.61	15400.	147.22
205	725.00	104.53	15400.	147.33
60	725.00	104.53	15400.	147.33
361	725.00	104.37	15400.	147.55
1464	725.00	104.37	15400.	147.55
362	725.00	104.28	15400.	147.68
1463	725.00	104.28	15400.	147.68
126	725.00	104.23	15400.	147.74
859	725.00	104.23	15400.	147.75
342	725.00	104.07	15400.	147.98
1291	725.00	104.06	15400.	147.99
147	725.00	103.80	15400.	148.36
1078	725.00	103.79	15400.	148.37
61	725.00	103.77	15400.	148.41
204	725.00	103.76	15400.	148.42
169	725.00	103.67	15400.	148.55
1272	725.00	103.66	15400.	148.56
170	725.00	103.57	15400.	148.68
1271	725.00	103.57	15400.	148.70
363	725.00	103.43	15400.	148.89

Table 3.AA.40 (continued)

1462	725.00	103.43	15400.	148.90
148	725.00	102.95	15400.	149.59
1077	725.00	-102.95	15400.	149.59
367	725.00	102.86	15400.	149.72
1458	725.00	102.86	15400.	149.72
368	725.00	102.77	15400.	149.85
1457	725.00	-102.76	15400.	149.86
171	725.00	102.73	15400.	149.91
1270	725.00	-102.72	15400.	149.92
364	725.00	102.58	15400.	150.12
1461	725.00	-102.58	15400.	150.13
283	725.00	-102.40	15400.	150.39
630	725.00	-102.40	15400.	150.39
284	725.00	-102.31	15400.	150.53
629	725.00	-102.31	15400.	150.53
285	725.00	-101.46	15400.	151.79
628	725.00	-101.46	15400.	151.79
286	725.00	-100.61	15400.	153.07
627	725.00	-100.61	15400.	153.07
287	725.00	-99.760	15400.	154.37
626	725.00	-99.760	15400.	154.37
288	725.00	-98.911	15400.	155.70
625	725.00	-98.911	15400.	155.70
1110	725.00	-96.861	15400.	158.99
1109	725.00	-96.769	15400.	159.14
523	725.00	-96.755	15400.	159.16
524	725.00	-96.663	15400.	159.32
1108	725.00	-95.920	15400.	160.55
525	725.00	-95.814	15400.	160.73
1107	725.00	-95.071	15400.	161.98
526	725.00	-94.966	15400.	162.16
1106	725.00	-94.223	15400.	163.44
527	725.00	-94.117	15400.	163.63
1105	725.00	-93.374	15400.	164.93
528	725.00	-93.268	15400.	165.12
451	725.00	-89.881	15400.	171.34
438	725.00	-89.875	15400.	171.35
452	725.00	-89.789	15400.	171.51
437	725.00	-89.784	15400.	171.52
453	725.00	-88.940	15400.	173.15
436	725.00	-88.935	15400.	173.16
454	725.00	-88.091	15400.	174.82
435	725.00	-88.086	15400.	174.83
455	725.00	-87.243	15400.	176.52
434	725.00	-87.237	15400.	176.53
456	725.00	-86.394	15400.	178.25
433	725.00	-86.389	15400.	178.26
1470	725.00	-84.223	15400.	182.85
571	725.00	-84.207	15400.	182.88
1469	725.00	-84.131	15400.	183.05
572	725.00	-84.115	15400.	183.08
1468	725.00	-83.283	15400.	184.91
573	725.00	-83.267	15400.	184.95

Table 3.AA.40 (continued)

1467	725.00	-82.434	15400.	186.82
574	725.00	-82.418	15400.	186.85
1466	725.00	-81.585	15400.	188.76
575	725.00	-81.569	15400.	188.80
1465	725.00	-80.736	15400.	190.74
576	725.00	-80.720	15400.	190.78
307	725.00	-76.513	15400.	201.27
870	725.00	-76.506	15400.	201.29
308	725.00	-76.422	15400.	201.51
869	725.00	-76.414	15400.	201.53
1614	725.00	-75.679	15400.	203.49
1051	725.00	-75.611	15400.	203.67
1613	725.00	-75.588	15400.	203.74
309	725.00	-75.573	15400.	203.78
868	725.00	-75.566	15400.	203.80
1052	725.00	-75.520	15400.	203.92
1612	725.00	-74.739	15400.	206.05
310	725.00	-74.724	15400.	206.09
867	725.00	-74.717	15400.	206.11
1053	725.00	-74.671	15400.	206.24
1611	725.00	-73.890	15400.	208.42
311	725.00	-73.875	15400.	208.46
866	725.00	-73.868	15400.	208.48
1054	725.00	-73.822	15400.	208.61
1610	725.00	-73.041	15400.	210.84
312	725.00	-73.027	15400.	210.88
865	725.00	-73.019	15400.	210.90
1055	725.00	-72.973	15400.	211.04
1609	725.00	-72.193	15400.	213.32
1056	725.00	-72.125	15400.	213.52
547	725.00	-72.073	15400.	213.67
548	725.00	-71.981	15400.	213.94
1302	725.00	-71.972	15400.	213.97
1301	725.00	-71.880	15400.	214.25
549	725.00	-71.132	15400.	216.50
1300	725.00	-71.031	15400.	216.81
550	725.00	-70.284	15400.	219.11
1299	725.00	-70.182	15400.	219.43
551	725.00	-69.435	15400.	221.79
1298	725.00	-69.333	15400.	222.11
552	725.00	-68.586	15400.	224.53
1297	725.00	-68.485	15400.	224.87
115	725.00	-62.569	15400.	246.13
606	725.00	-62.568	15400.	246.13
116	725.00	-62.477	15400.	246.49
605	725.00	-62.477	15400.	246.49
117	725.00	-61.628	15400.	249.89
604	725.00	-61.628	15400.	249.89
118	725.00	-60.779	15400.	253.38
603	725.00	-60.779	15400.	253.38
119	725.00	-59.930	15400.	256.96
602	725.00	-59.930	15400.	256.97
120	725.00	-59.082	15400.	260.66

Table 3.AA.40 (continued)

601	725.00	-59.082	15400.	260.66
1086	725.00	-56.177	15400.	274.13
331	725.00	-56.110	15400.	274.46
1085	725.00	-56.086	15400.	274.58
332	725.00	-56.018	15400.	274.91
1084	725.00	-55.237	15400.	278.80
333	725.00	-55.170	15400.	279.14
1083	725.00	-54.388	15400.	283.15
334	725.00	-54.321	15400.	283.50
1082	725.00	-53.539	15400.	287.64
335	725.00	-53.472	15400.	288.00
1081	725.00	-52.691	15400.	292.27
336	725.00	-52.623	15400.	292.65
259	725.00	-51.496	15400.	299.05
414	725.00	-51.493	15400.	299.07
260	725.00	-51.404	15400.	299.59
413	725.00	-51.401	15400.	299.61
261	725.00	-50.555	15400.	304.62
412	725.00	-50.552	15400.	304.64
262	725.00	-49.707	15400.	309.82
411	725.00	-49.703	15400.	309.84
263	725.00	-48.858	15400.	315.20
410	725.00	-48.855	15400.	315.22
264	725.00	-48.009	15400.	320.77
409	725.00	-48.006	15400.	320.79
355	725.00	-36.532	15400.	421.55
1278	725.00	-36.473	15400.	422.23
356	725.00	-36.440	15400.	422.61
1277	725.00	-36.381	15400.	423.30
357	725.00	-35.592	15400.	432.69
1276	725.00	-35.532	15400.	433.41
139	725.00	-35.145	15400.	438.18
846	725.00	-35.141	15400.	438.24
140	725.00	-35.053	15400.	439.33
845	725.00	-35.049	15400.	439.39
358	725.00	-34.743	15400.	443.26
1275	725.00	-34.684	15400.	444.01
141	725.00	-34.205	15400.	450.23
844	725.00	-34.200	15400.	450.29
359	725.00	-33.894	15400.	454.36
1274	725.00	-33.835	15400.	455.15
142	725.00	-33.356	15400.	461.69
843	725.00	-33.351	15400.	461.75
360	725.00	-33.045	15400.	466.03
1273	725.00	-32.986	15400.	466.86
143	725.00	-32.507	15400.	473.74
842	725.00	-32.503	15400.	473.81
144	725.00	-31.659	15400.	486.44
841	725.00	-31.654	15400.	486.51
1590	725.00	-30.804	15400.	499.94
811	725.00	-30.774	15400.	500.42
1589	725.00	-30.712	15400.	501.44
812	725.00	-30.683	15400.	501.91

Table 3.AA.40 (continued)

1588	725.00	-29.863	15400.	515.69
813	725.00	-29.834	15400.	516.19
1587	725.00	-29.014	15400.	530.77
814	725.00	-28.985	15400.	531.31
1586	725.00	-28.166	15400.	546.77
815	725.00	-28.136	15400.	547.34
1585	725.00	-27.317	15400.	563.75
816	725.00	-27.288	15400.	564.36
19	725.00	-22.136	15400.	695.71
582	725.00	-22.135	15400.	695.73
20	725.00	-22.044	15400.	698.61
581	725.00	-22.043	15400.	698.63
21	725.00	-21.195	15400.	726.59
580	725.00	-21.194	15400.	726.61
22	725.00	-20.346	15400.	756.90
579	725.00	-20.346	15400.	756.92
1446	725.00	-20.312	15400.	758.17
379	725.00	-20.305	15400.	758.43
1445	725.00	-20.220	15400.	761.62
380	725.00	-20.213	15400.	761.87
23	725.00	-19.497	15400.	789.85
578	725.00	-19.497	15400.	789.87
1444	725.00	-19.371	15400.	794.99
381	725.00	-19.365	15400.	795.27
24	725.00	-18.649	15400.	825.79
577	725.00	-18.648	15400.	825.82
1443	725.00	-18.523	15400.	831.41
382	725.00	-18.516	15400.	831.72
1442	725.00	-17.674	15400.	871.34
383	725.00	-17.667	15400.	871.68
1441	725.00	-16.825	15400.	915.29
384	725.00	-16.818	15400.	915.67
1062	725.00	-14.975	15400.	1028.4
163	725.00	-14.947	15400.	1030.3
1061	725.00	-14.883	15400.	1034.7
164	725.00	-14.855	15400.	1036.7
1060	725.00	-14.034	15400.	1097.3
165	725.00	-14.006	15400.	1099.5
1059	725.00	-13.186	15400.	1167.9
166	725.00	-13.157	15400.	1170.5
91	725.00	-12.629	15400.	1219.4
390	725.00	-12.628	15400.	1219.5
92	725.00	-12.538	15400.	1228.3
389	725.00	-12.536	15400.	1228.5
1058	725.00	-12.337	15400.	1248.3
167	725.00	-12.308	15400.	1251.2
93	725.00	-11.689	15400.	1317.5
388	725.00	-11.687	15400.	1317.7
1057	725.00	-11.488	15400.	1340.5
168	725.00	-11.460	15400.	1343.8
94	725.00	-10.840	15400.	1420.7
387	725.00	-10.839	15400.	1420.8
95	725.00	-9.9913	15400.	1541.3

Table 3.AA.40 (continued)

386	725.00	-9.9899	15400.	1541.6
96	725.00	-9.1426	15400.	1684.4
187	725.00	-8.0302	15400.	1917.8
1254	725.00	-8.0098	15400.	1922.6
1253	725.00	-7.9179	15400.	1945.0
189	725.00	-7.0896	15400.	2172.2
822	725.00	-6.3729	15400.	2416.5
43	725.00	-6.3723	15400.	2416.7
44	725.00	-6.2804	15400.	2452.1
190	725.00	-6.2408	15400.	2467.6
820	725.00	-5.4323	15400.	2834.9
45	725.00	-5.4317	15400.	2835.2
1250	725.00	-5.3717	15400.	2866.9
819	725.00	-4.5835	15400.	3359.8
192	725.00	-4.5433	15400.	3389.6
1249	725.00	-4.5229	15400.	3404.9
47	725.00	-3.7342	15400.	4124.0
817	725.00	-2.8861	15400.	5336.0
1453	725.00	-2.8677	15400.	5370.2
372	725.00	-2.8645	15400.	5376.1
371	725.00	-2.7726	15400.	5554.3
1267	725.00	-2.0655	15400.	7455.7
1268	725.00	-1.9736	15400.	7802.8
173	725.00	-1.9657	15400.	7834.4
370	725.00	-1.9239	15400.	8004.7
1459	725.00	-1.3556	15400.	11360.
1460	725.00	-1.2637	15400.	12186.
365	725.00	-1.2586	15400.	12236.
172	725.00	-1.1169	15400.	13788.
1456	725.00	-1.0783	15400.	14282.
1075	725.00	-.98966	15400.	15561.
150	725.00	-.98380	15400.	15654.
149	725.00	-.89190	15400.	17267.

Table 3.AA.41

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Fuel Basket
SUBTITLE 2 =
Load Combination: F2 (See Table 3.1.3)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	CURRENT PL+PB	PREVIOUS ALLOW	PREVIOUS SF
438	725.00	8031.3	23100.	2.8762
451	725.00	8031.2	23100.	2.8763
667	725.00	7688.0	23100.	3.0047
462	725.00	7687.9	23100.	3.0047
437	725.00	7582.2	23100.	3.0466
452	725.00	7582.1	23100.	3.0467
433	725.00	7576.6	23100.	3.0489
456	725.00	7576.6	23100.	3.0489
654	725.00	7517.9	23100.	3.0727
475	725.00	7517.7	23100.	3.0727
427	725.00	7293.3	23100.	3.1673
246	725.00	7293.3	23100.	3.1673
668	725.00	7269.9	23100.	3.1775
461	725.00	7269.9	23100.	3.1775
434	725.00	7233.2	23100.	3.1936
455	725.00	7233.1	23100.	3.1936
678	725.00	7164.9	23100.	3.2241
691	725.00	7164.9	23100.	3.2241
653	725.00	7097.7	23100.	3.2546
476	725.00	7097.6	23100.	3.2546
649	725.00	7064.7	23100.	3.2698
480	725.00	7064.5	23100.	3.2699
907	725.00	7029.9	23100.	3.2860
486	725.00	7029.9	23100.	3.2860
643	725.00	6911.3	23100.	3.3423
270	725.00	6911.2	23100.	3.3424
428	725.00	6883.6	23100.	3.3558
245	725.00	6883.6	23100.	3.3558
432	725.00	6845.8	23100.	3.3743
241	725.00	6845.8	23100.	3.3744
672	725.00	6786.1	23100.	3.4040
457	725.00	6786.0	23100.	3.4041
677	725.00	6776.4	23100.	3.4089
692	725.00	6776.4	23100.	3.4089
650	725.00	6750.2	23100.	3.4221
479	725.00	6750.1	23100.	3.4222
894	725.00	6740.1	23100.	3.4273
499	725.00	6739.9	23100.	3.4273
908	725.00	6649.3	23100.	3.4740

Table 3.AA.41 (continued)

485	725.00	6649.2	23100.	3.4741
431	725.00	6541.4	23100.	3.5313
242	725.00	6541.4	23100.	3.5314
644	725.00	6532.5	23100.	3.5362
269	725.00	6532.3	23100.	3.5362
702	725.00	6495.3	23100.	3.5564
931	725.00	6495.3	23100.	3.5564
671	725.00	6473.7	23100.	3.5683
458	725.00	6473.6	23100.	3.5683
918	725.00	6374.8	23100.	3.6236
715	725.00	6374.8	23100.	3.6237
893	725.00	6358.5	23100.	3.6329
500	725.00	6358.4	23100.	3.6330
889	725.00	6290.8	23100.	3.6720
504	725.00	6290.7	23100.	3.6721
696	725.00	6262.9	23100.	3.6884
673	725.00	6262.9	23100.	3.6884
1123	725.00	6248.9	23100.	3.6967
510	725.00	6248.3	23100.	3.6970
883	725.00	6211.0	23100.	3.7192
294	725.00	6210.9	23100.	3.7193
701	725.00	6145.0	23100.	3.7592
932	725.00	6145.0	23100.	3.7592
912	725.00	6063.2	23100.	3.8099
481	725.00	6063.1	23100.	3.8099
917	725.00	6025.8	23100.	3.8335
716	725.00	6025.8	23100.	3.8335
648	725.00	6018.0	23100.	3.8385
265	725.00	6017.9	23100.	3.8386
890	725.00	6015.0	23100.	3.8404
503	725.00	6014.8	23100.	3.8405
695	725.00	5980.2	23100.	3.8627
674	725.00	5980.2	23100.	3.8627
523	725.00	5945.9	23100.	3.8850
1110	725.00	5945.1	23100.	3.8856
1124	725.00	5910.5	23100.	3.9083
509	725.00	5910.0	23100.	3.9086
884	725.00	5869.6	23100.	3.9355
293	725.00	5869.5	23100.	3.9356
911	725.00	5788.3	23100.	3.9908
482	725.00	5788.2	23100.	3.9909
647	725.00	5744.6	23100.	4.0212
266	725.00	5744.4	23100.	4.0213
1147	725.00	5711.1	23100.	4.0448
726	725.00	5710.6	23100.	4.0451
942	725.00	5699.5	23100.	4.0530
955	725.00	5699.4	23100.	4.0530
414	725.00	5640.3	23100.	4.0955
259	725.00	5640.2	23100.	4.0956
409	725.00	5629.2	23100.	4.1036
264	725.00	5629.1	23100.	4.1037
524	725.00	5604.3	23100.	4.1219
1109	725.00	5603.4	23100.	4.1225

Table 3.AA.41 (continued)

739	725.00	5570.8	23100.	4.1466
1134	725.00	5569.8	23100.	4.1473
534	725.00	5550.5	23100.	4.1618
1315	725.00	5547.9	23100.	4.1637
936	725.00	5530.6	23100.	4.1767
697	725.00	5530.6	23100.	4.1767
528	725.00	5490.8	23100.	4.2071
1105	725.00	5489.8	23100.	4.2078
720	725.00	5470.8	23100.	4.2224
913	725.00	5470.8	23100.	4.2224
1148	725.00	5403.2	23100.	4.2752
725	725.00	5402.8	23100.	4.2756
1099	725.00	5395.9	23100.	4.2811
318	725.00	5395.3	23100.	4.2815
410	725.00	5395.2	23100.	4.2816
263	725.00	5395.1	23100.	4.2817
941	725.00	5388.8	23100.	4.2866
956	725.00	5388.8	23100.	4.2867
413	725.00	5300.7	23100.	4.3579
260	725.00	5300.6	23100.	4.3580
935	725.00	5286.0	23100.	4.3700
698	725.00	5286.0	23100.	4.3700
1128	725.00	5276.9	23100.	4.3775
505	725.00	5276.8	23100.	4.3776
740	725.00	5262.0	23100.	4.3899
1133	725.00	5261.1	23100.	4.3907
888	725.00	5255.4	23100.	4.3955
289	725.00	5255.2	23100.	4.3956
527	725.00	5254.8	23100.	4.3960
1106	725.00	5253.9	23100.	4.3967
533	725.00	5250.0	23100.	4.4000
1316	725.00	5247.5	23100.	4.4021
403	725.00	5240.0	23100.	4.4084
78	725.00	5239.8	23100.	4.4085
719	725.00	5227.5	23100.	4.4189
914	725.00	5227.5	23100.	4.4189
547	725.00	5194.1	23100.	4.4473
1302	725.00	5193.1	23100.	4.4482
630	725.00	5117.5	23100.	4.5140
283	725.00	5117.3	23100.	4.5141
625	725.00	5106.1	23100.	4.5240
288	725.00	5106.0	23100.	4.5241
1100	725.00	5096.6	23100.	4.5325
317	725.00	5096.0	23100.	4.5330
1127	725.00	5044.3	23100.	4.5794
506	725.00	5044.2	23100.	4.5795
887	725.00	5019.3	23100.	4.6022
290	725.00	5019.1	23100.	4.6024
750	725.00	4998.2	23100.	4.6217
1339	725.00	4995.5	23100.	4.6242
222	725.00	4936.3	23100.	4.6796
235	725.00	4936.2	23100.	4.6797
404	725.00	4934.8	23100.	4.6810

Table 3.AA.41 (continued)

77	725.00	4934.6	23100.	4.6812
1171	725.00	4915.8	23100.	4.6991
558	725.00	4914.8	23100.	4.7001
1483	725.00	4914.4	23100.	4.7005
217	725.00	4905.6	23100.	4.7089
626	725.00	4901.6	23100.	4.7127
548	725.00	4888.9	23100.	4.7250
1301	725.00	4887.9	23100.	4.7260
1158	725.00	4886.2	23100.	4.7276
619	725.00	4828.6	23100.	4.7840
408	725.00	4812.9	23100.	4.7996
73	725.00	4812.7	23100.	4.7998
284	725.00	4807.0	23100.	4.8055
763	725.00	4777.8	23100.	4.8349
552	725.00	4772.9	23100.	4.8398
1297	725.00	4771.9	23100.	4.8409
721	725.00	4740.5	23100.	4.8729
937	725.00	4734.7	23100.	4.8788
749	725.00	4728.8	23100.	4.8849
1340	725.00	4726.2	23100.	4.8876
218	725.00	4711.8	23100.	4.9026
744	725.00	4665.4	23100.	4.9513
557	725.00	4651.2	23100.	4.9664
1484	725.00	4650.9	23100.	4.9668
965	725.00	4647.2	23100.	4.9707
221	725.00	4637.1	23100.	4.9816
980	725.00	4617.1	23100.	5.0031
1157	725.00	4616.2	23100.	5.0041
74	725.00	4612.8	23100.	5.0078
342	725.00	4594.4	23100.	5.0278
529	725.00	4579.7	23100.	5.0440
1320	725.00	4577.0	23100.	5.0469
1298	725.00	4572.4	23100.	5.0520
620	725.00	4556.3	23100.	5.0699
1151	725.00	4538.4	23100.	5.0899
722	725.00	4538.4	23100.	5.0899

Table 3.AA.41 (continued)

938	725.00	4529.8	23100.	5.0995
959	725.00	4529.8	23100.	5.0995
764	725.00	4508.6	23100.	5.1235
1325	725.00	4507.4	23100.	5.1249
743	725.00	4462.4	23100.	5.1766
1130	725.00	4461.4	23100.	5.1777
1104	725.00	4425.1	23100.	5.2202
313	725.00	4424.9	23100.	5.2204
1459	725.00	4406.0	23100.	5.2428
366	725.00	4405.5	23100.	5.2435
530	725.00	4384.8	23100.	5.2681
1319	725.00	4382.3	23100.	5.2712
774	725.00	4352.3	23100.	5.3075
1507	725.00	4351.8	23100.	5.3081
341	725.00	4335.1	23100.	5.3286
1292	725.00	4332.6	23100.	5.3317
870	725.00	4316.2	23100.	5.3520
307	725.00	4316.0	23100.	5.3522
865	725.00	4295.3	23100.	5.3780
312	725.00	4295.1	23100.	5.3782
1103	725.00	4231.2	23100.	5.4595
314	725.00	4231.0	23100.	5.4597
990	725.00	4191.1	23100.	5.5117
1363	725.00	4188.3	23100.	5.5154
1460	725.00	4166.2	23100.	5.5447
365	725.00	4165.6	23100.	5.5454
859	725.00	4151.7	23100.	5.5640
126	725.00	4151.4	23100.	5.5645
866	725.00	4130.8	23100.	5.5921
311	725.00	4130.7	23100.	5.5923
773	725.00	4120.6	23100.	5.6060
1508	725.00	4120.1	23100.	5.6066
1003	725.00	4104.4	23100.	5.6282
1350	725.00	4103.0	23100.	5.6300
1195	725.00	4102.6	23100.	5.6306
1182	725.00	4101.1	23100.	5.6326
869	725.00	4046.0	23100.	5.7093
308	725.00	4045.8	23100.	5.7096
745	725.00	4034.5	23100.	5.7256
1344	725.00	4031.8	23100.	5.7295
989	725.00	3962.0	23100.	5.8304
1364	725.00	3959.4	23100.	5.8343
1176	725.00	3945.5	23100.	5.8548
961	725.00	3945.4	23100.	5.8549
624	725.00	3941.4	23100.	5.8608
97	725.00	3941.1	23100.	5.8613
435	725.00	3930.1	23100.	5.8777
454	725.00	3930.1	23100.	5.8778
984	725.00	3922.3	23100.	5.8894
1153	725.00	3921.3	23100.	5.8908
1470	725.00	3917.9	23100.	5.8960
571	725.00	3917.0	23100.	5.8973
860	725.00	3916.0	23100.	5.8989

125	725.00	3915.7	23100.	5.8993
1181	725.00	3873.7	23100.	5.9634
1004	725.00	3873.3	23100.	5.9638
746	725.00	3870.9	23100.	5.9676
1343	725.00	3868.3	23100.	5.9716
1321	725.00	3863.9	23100.	5.9785
1488	725.00	3854.0	23100.	5.9937
1175	725.00	3783.1	23100.	6.1062
962	725.00	3783.0	23100.	6.1062
98	725.00	3774.1	23100.	6.1207
983	725.00	3757.9	23100.	6.1470
1494	725.00	3753.8	23100.	6.1538
787	725.00	3752.6	23100.	6.1557
478	725.00	3715.2	23100.	6.2177
767	725.00	3701.8	23100.	6.2402
1487	725.00	3696.2	23100.	6.2496
554	725.00	3695.8	23100.	6.2503
572	725.00	3684.8	23100.	6.2690
337	725.00	3664.7	23100.	6.3033
1014	725.00	3622.0	23100.	6.3777
1531	725.00	3621.5	23100.	6.3786
243	725.00	3599.0	23100.	6.4184
436	725.00	3565.7	23100.	6.4784
669	725.00	3540.6	23100.	6.5243
460	725.00	3540.6	23100.	6.5244
788	725.00	3537.1	23100.	6.5307
338	725.00	3510.7	23100.	6.5798
331	725.00	3504.3	23100.	6.5920
1086	725.00	3503.4	23100.	6.5936
1081	725.00	3501.0	23100.	6.5981
390	725.00	3478.5	23100.	6.6408
670	725.00	3457.8	23100.	6.6806
459	725.00	3457.7	23100.	6.6807
96	725.00	3442.9	23100.	6.7095
1013	725.00	3427.8	23100.	6.7391

Table 3.AA.41 (continued)

1206	725.00	3383.1	23100.	6.8281
1387	725.00	3381.1	23100.	6.8321
335	725.00	3377.7	23100.	6.8391
1082	725.00	3376.8	23100.	6.8408
652	725.00	3349.4	23100.	6.8968
477	725.00	3349.3	23100.	6.8970
891	725.00	3336.2	23100.	6.9240
502	725.00	3336.2	23100.	6.9241
386	725.00	3322.9	23100.	6.9517
95	725.00	3322.5	23100.	6.9526
676	725.00	3320.9	23100.	6.9559
693	725.00	3320.9	23100.	6.9560
1219	725.00	3317.1	23100.	6.9640
1374	725.00	3315.2	23100.	6.9680
1075	725.00	3308.3	23100.	6.9825
150	725.00	3307.5	23100.	6.9840
1512	725.00	3295.8	23100.	7.0090
769	725.00	3295.4	23100.	7.0097
332	725.00	3274.3	23100.	7.0550
1085	725.00	3273.4	23100.	7.0568
909	725.00	3265.8	23100.	7.0734
484	725.00	3265.7	23100.	7.0734
389	725.00	3252.8	23100.	7.1017
92	725.00	3252.4	23100.	7.1025
694	725.00	3238.1	23100.	7.1339
675	725.00	3238.1	23100.	7.1339
985	725.00	3233.6	23100.	7.1437
1465	725.00	3231.5	23100.	7.1484
244	725.00	3231.2	23100.	7.1490
429	725.00	3231.2	23100.	7.1490
576	725.00	3231.1	23100.	7.1493
1368	725.00	3230.8	23100.	7.1499
1205	725.00	3194.3	23100.	7.2316
1603	725.00	3193.0	23100.	7.2345
1388	725.00	3192.4	23100.	7.2358
798	725.00	3190.0	23100.	7.2414
864	725.00	3186.4	23100.	7.2495
121	725.00	3186.1	23100.	7.2502
1511	725.00	3169.8	23100.	7.2876
770	725.00	3169.4	23100.	7.2884
645	725.00	3165.5	23100.	7.2975
268	725.00	3165.4	23100.	7.2976
1008	725.00	3133.3	23100.	7.3725
1200	725.00	3132.2	23100.	7.3749
1345	725.00	3131.9	23100.	7.3757
1177	725.00	3131.2	23100.	7.3773
1220	725.00	3128.4	23100.	7.3840
1373	725.00	3126.6	23100.	7.3883
910	725.00	3118.1	23100.	7.4083
483	725.00	3118.1	23100.	7.4084
1076	725.00	3115.4	23100.	7.4147
149	725.00	3114.7	23100.	7.4164
986	725.00	3110.3	23100.	7.4271

Table 3.AA.41 (continued)

1466	725.00	3105.0	23100.	7.4396
575	725.00	3104.6	23100.	7.4405
262	725.00	3102.5	23100.	7.4455
1464	725.00	3087.6	23100.	7.4816
267	725.00	3087.5	23100.	7.4819
361	725.00	3086.7	23100.	7.4836
122	725.00	3055.8	23100.	7.5594
700	725.00	3041.0	23100.	7.5963
1604	725.00	3029.1	23100.	7.6259
797	725.00	3026.2	23100.	7.6332
1178	725.00	3009.4	23100.	7.6759
1007	725.00	3008.0	23100.	7.6796
1346	725.00	3006.7	23100.	7.6829
1027	725.00	3005.9	23100.	7.6848
72	725.00	2992.2	23100.	7.7200
892	725.00	2966.4	23100.	7.7872
1463	725.00	2953.1	23100.	7.8223
362	725.00	2952.3	23100.	7.8244
1107	725.00	2943.8	23100.	7.8470
595	725.00	2939.5	23100.	7.8585
916	725.00	2934.3	23100.	7.8723
717	725.00	2934.3	23100.	7.8723
54	725.00	2934.0	23100.	7.8733
1125	725.00	2917.0	23100.	7.9190
216	725.00	2903.5	23100.	7.9560
49	725.00	2903.3	23100.	7.9564
71	725.00	2901.0	23100.	7.9628
934	725.00	2895.4	23100.	7.9783
627	725.00	2881.4	23100.	8.0169
286	725.00	2881.3	23100.	8.0171
67	725.00	2861.3	23100.	8.0731
606	725.00	2856.8	23100.	8.0860
718	725.00	2849.5	23100.	8.1068
915	725.00	2849.4	23100.	8.1068
292	725.00	2848.0	23100.	8.1110

Table 3.AA.41 (continued)

360	725.00	2847.3	23100.	8.1130
1273	725.00	2846.5	23100.	8.1152
1489	725.00	2836.9	23100.	8.1426
792	725.00	2835.7	23100.	8.1460
355	725.00	2834.0	23100.	8.1510
1278	725.00	2833.3	23100.	8.1532
1517	725.00	2832.9	23100.	8.1543
1028	725.00	2831.7	23100.	8.1577
402	725.00	2814.9	23100.	8.2064
79	725.00	2814.7	23100.	8.2069
215	725.00	2812.1	23100.	8.2144
50	725.00	2812.0	23100.	8.2149
397	725.00	2798.0	23100.	8.2558
84	725.00	2797.9	23100.	8.2562
238	725.00	2790.0	23100.	8.2797
219	725.00	2789.9	23100.	8.2797
601	725.00	2777.2	23100.	8.3177
120	725.00	2776.7	23100.	8.3192
596	725.00	2766.4	23100.	8.3501
5	725.00	2766.2	23100.	8.3509
507	725.00	2764.3	23100.	8.3566
1126	725.00	2764.2	23100.	8.3567
1555	725.00	2762.9	23100.	8.3607
1230	725.00	2761.4	23100.	8.3653
359	725.00	2757.5	23100.	8.3771
1274	725.00	2756.8	23100.	8.3793
212	725.00	2737.4	23100.	8.4387
53	725.00	2737.3	23100.	8.4390
1490	725.00	2727.1	23100.	8.4704
791	725.00	2726.0	23100.	8.4739
886	725.00	2707.7	23100.	8.5312
291	725.00	2707.6	23100.	8.5314
1149	725.00	2691.6	23100.	8.5821
724	725.00	2691.3	23100.	8.5831
602	725.00	2688.5	23100.	8.5921
119	725.00	2688.0	23100.	8.5937
401	725.00	2684.0	23100.	8.6064
80	725.00	2683.9	23100.	8.6070
197	725.00	2665.0	23100.	8.6678
68	725.00	2664.7	23100.	8.6688
605	725.00	2662.4	23100.	8.6765
116	725.00	2661.9	23100.	8.6780
398	725.00	2653.4	23100.	8.7057
83	725.00	2653.3	23100.	8.7061
940	725.00	2651.7	23100.	8.7115
957	725.00	2651.7	23100.	8.7115
356	725.00	2638.9	23100.	8.7537
1277	725.00	2638.2	23100.	8.7560
406	725.00	2636.0	23100.	8.7632
75	725.00	2635.9	23100.	8.7636
1556	725.00	2610.7	23100.	8.8482
1229	725.00	2609.3	23100.	8.8530
532	725.00	2606.0	23100.	8.8643

Table 3.AA.41 (continued)

1317	725.00	2604.7	23100.	8.8685
550	725.00	2599.7	23100.	8.8857
1299	725.00	2599.1	23100.	8.8876
1398	725.00	2592.4	23100.	8.9106
1411	725.00	2590.8	23100.	8.9161
525	725.00	2580.3	23100.	8.9525
1108	725.00	2579.9	23100.	8.9537
741	725.00	2541.8	23100.	9.0881
1132	725.00	2541.4	23100.	9.0895
723	725.00	2540.3	23100.	9.0934
1150	725.00	2540.2	23100.	9.0937
1536	725.00	2527.3	23100.	9.1402
1009	725.00	2527.0	23100.	9.1414
958	725.00	2506.1	23100.	9.2176
939	725.00	2506.1	23100.	9.2176
1590	725.00	2483.3	23100.	9.3020
811	725.00	2481.8	23100.	9.3077
867	725.00	2480.7	23100.	9.3120
310	725.00	2480.6	23100.	9.3122
174	725.00	2473.0	23100.	9.3409
1267	725.00	2470.5	23100.	9.3505
1101	725.00	2463.9	23100.	9.3755
316	725.00	2463.5	23100.	9.3770
742	725.00	2455.5	23100.	9.4075
1131	725.00	2455.1	23100.	9.4090
531	725.00	2454.2	23100.	9.4123
1318	725.00	2453.0	23100.	9.4171
1397	725.00	2443.4	23100.	9.4541
1412	725.00	2441.3	23100.	9.4620
1535	725.00	2438.8	23100.	9.4719
1010	725.00	2438.5	23100.	9.4732
1201	725.00	2421.9	23100.	9.5378
1392	725.00	2420.0	23100.	9.5455
748	725.00	2372.9	23100.	9.7349
1341	725.00	2371.6	23100.	9.7402
1597	725.00	2367.2	23100.	9.7583
804	725.00	2365.2	23100.	9.7668
1080	725.00	2356.1	23100.	9.8044
145	725.00	2355.7	23100.	9.8059
1224	725.00	2350.4	23100.	9.8281
556	725.00	2349.0	23100.	9.8339
1369	725.00	2348.9	23100.	9.8345
1485	725.00	2348.6	23100.	9.8356
1202	725.00	2338.9	23100.	9.8765
1391	725.00	2337.0	23100.	9.8843
173	725.00	2322.2	23100.	9.9475
1268	725.00	2319.8	23100.	9.9578
1589	725.00	2316.1	23100.	9.9736
812	725.00	2314.7	23100.	9.9797
315	725.00	2308.5	23100.	10.006
1102	725.00	2308.5	23100.	10.007
1173	725.00	2303.2	23100.	10.030
964	725.00	2302.8	23100.	10.031

Table 3.AA.41 (continued)

412	725.00	2297.5	23100.	10.054
261	725.00	2297.4	23100.	10.055
1079	725.00	2268.6	23100.	10.183
146	725.00	2268.3	23100.	10.184
1223	725.00	2267.5	23100.	10.188
1370	725.00	2266.0	23100.	10.194
1598	725.00	2258.4	23100.	10.228
803	725.00	2256.5	23100.	10.237
1243	725.00	2255.8	23100.	10.240
1542	725.00	2255.2	23100.	10.243
981	725.00	2254.3	23100.	10.247
1156	725.00	2254.0	23100.	10.249
405	725.00	2247.8	23100.	10.277
76	725.00	2247.7	23100.	10.277
1602	725.00	2229.2	23100.	10.362
747	725.00	2228.4	23100.	10.366
1342	725.00	2227.1	23100.	10.372
799	725.00	2226.7	23100.	10.374
549	725.00	2201.8	23100.	10.491
1300	725.00	2201.2	23100.	10.494
621	725.00	2172.4	23100.	10.633
100	725.00	2172.3	23100.	10.634
765	725.00	2154.4	23100.	10.722
1324	725.00	2153.7	23100.	10.726
963	725.00	2152.0	23100.	10.734
1174	725.00	2151.9	23100.	10.735
835	725.00	2151.1	23100.	10.738
30	725.00	2150.9	23100.	10.740
841	725.00	2145.8	23100.	10.765
144	725.00	2145.3	23100.	10.768
846	725.00	2143.5	23100.	10.777
139	725.00	2143.0	23100.	10.779
1601	725.00	2134.6	23100.	10.822
800	725.00	2132.2	23100.	10.834
1244	725.00	2124.4	23100.	10.874
1541	725.00	2123.9	23100.	10.876
1585	725.00	2123.0	23100.	10.881
816	725.00	2121.0	23100.	10.891
772	725.00	2112.2	23100.	10.937
1509	725.00	2111.7	23100.	10.939
982	725.00	2108.6	23100.	10.955
1155	725.00	2108.2	23100.	10.957
1486	725.00	2107.4	23100.	10.961
555	725.00	2107.0	23100.	10.964
622	725.00	2100.6	23100.	10.997
99	725.00	2100.4	23100.	10.998
334	725.00	2098.5	23100.	11.008
1083	725.00	2098.1	23100.	11.010
842	725.00	2091.9	23100.	11.043
143	725.00	2091.3	23100.	11.046
1461	725.00	2082.6	23100.	11.092
364	725.00	2082.5	23100.	11.093
387	725.00	2079.7	23100.	11.108

Table 3.AA.41 (continued)

94	725.00	2079.4	23100.	11.109
1513	725.00	2074.2	23100.	11.137
285	725.00	2073.5	23100.	11.140
1032	725.00	2073.0	23100.	11.143
1293	725.00	2070.3	23100.	11.158
1586	725.00	2061.2	23100.	11.207
1323	725.00	2060.2	23100.	11.212
815	725.00	2059.3	23100.	11.218
29	725.00	2017.0	23100.	11.453
600	725.00	2015.1	23100.	11.464
1514	725.00	2005.6	23100.	11.518
220	725.00	2005.3	23100.	11.520
1031	725.00	2004.5	23100.	11.524
845	725.00	1984.3	23100.	11.642
988	725.00	1977.7	23100.	11.680
1365	725.00	1976.4	23100.	11.688
1627	725.00	1957.0	23100.	11.804
1294	725.00	1955.9	23100.	11.810
599	725.00	1947.4	23100.	11.862
2	725.00	1947.1	23100.	11.864
70	725.00	1926.7	23100.	11.989
1197	725.00	1904.9	23100.	12.127
1608	725.00	1895.6	23100.	12.186
793	725.00	1892.6	23100.	12.206
771	725.00	1874.4	23100.	12.324
1005	725.00	1871.4	23100.	12.343
124	725.00	1870.8	23100.	12.348
1348	725.00	1870.7	23100.	12.348
1037	725.00	1846.9	23100.	12.508
987	725.00	1839.4	23100.	12.559
1607	725.00	1837.4	23100.	12.572
214	725.00	1837.2	23100.	12.574
794	725.00	1834.6	23100.	12.592
1467	725.00	1805.2	23100.	12.796
358	725.00	1797.1	23100.	12.854
1275	725.00	1796.8	23100.	12.856

Table 3.AA.41 (continued)

1579	725.00	1774.1	23100.	13.021
1566	725.00	1773.4	23100.	13.026
1422	725.00	1772.1	23100.	13.035
1435	725.00	1771.4	23100.	13.040
1012	725.00	1765.6	23100.	13.083
1533	725.00	1765.2	23100.	13.086
1198	725.00	1753.6	23100.	13.173
1179	725.00	1753.4	23100.	13.175
603	725.00	1737.9	23100.	13.292
118	725.00	1737.6	23100.	13.294
862	725.00	1721.1	23100.	13.422
123	725.00	1720.9	23100.	13.423
1006	725.00	1719.5	23100.	13.434
1347	725.00	1718.7	23100.	13.440
1560	725.00	1699.7	23100.	13.591
1225	725.00	1697.9	23100.	13.605
868	725.00	1682.5	23100.	13.730
309	725.00	1682.4	23100.	13.731
1492	725.00	1679.5	23100.	13.754
789	725.00	1679.0	23100.	13.759
1468	725.00	1672.6	23100.	13.811
573	725.00	1672.0	23100.	13.816
1565	725.00	1670.7	23100.	13.827
1436	725.00	1668.8	23100.	13.842
1580	725.00	1668.6	23100.	13.844
1614	725.00	1667.3	23100.	13.855
1421	725.00	1666.8	23100.	13.859
1051	725.00	1665.2	23100.	13.872
1559	725.00	1653.2	23100.	13.973
1226	725.00	1651.5	23100.	13.987
1605	725.00	1647.1	23100.	14.025
796	725.00	1645.6	23100.	14.037
1393	725.00	1631.7	23100.	14.157
1416	725.00	1629.8	23100.	14.173
1394	725.00	1587.8	23100.	14.548
1415	725.00	1586.1	23100.	14.564
1204	725.00	1582.5	23100.	14.597
1491	725.00	1581.8	23100.	14.604
1389	725.00	1581.4	23100.	14.607
790	725.00	1581.2	23100.	14.609
1462	725.00	1579.6	23100.	14.624
363	725.00	1579.1	23100.	14.629
1613	725.00	1563.4	23100.	14.776
1052	725.00	1561.4	23100.	14.795
169	725.00	1551.8	23100.	14.886
1272	725.00	1549.3	23100.	14.910
1221	725.00	1517.6	23100.	15.222
1372	725.00	1516.4	23100.	15.233
170	725.00	1506.3	23100.	15.335
1271	725.00	1504.0	23100.	15.359
1453	725.00	1500.5	23100.	15.395
372	725.00	1500.2	23100.	15.398
1534	725.00	1490.1	23100.	15.502

1011	725.00	1489.7	23100.	15.506
384	725.00	1486.3	23100.	15.542
1442	725.00	1473.7	23100.	15.675
1077	725.00	1465.9	23100.	15.758
148	725.00	1465.5	23100.	15.763
142	725.00	1462.0	23100.	15.801
400	725.00	1458.4	23100.	15.839
1203	725.00	1440.5	23100.	16.036
1390	725.00	1439.4	23100.	16.048
371	725.00	1433.6	23100.	16.114
583	725.00	1398.3	23100.	16.520
594	725.00	1398.3	23100.	16.520
7	725.00	1398.3	23100.	16.520
1371	725.00	1369.3	23100.	16.870
1587	725.00	1358.4	23100.	17.005
1516	725.00	1354.7	23100.	17.052
1029	725.00	1354.1	23100.	17.060
17	725.00	1341.3	23100.	17.222
593	725.00	1341.2	23100.	17.223
1557	725.00	1336.3	23100.	17.287
1228	725.00	1335.8	23100.	17.293
82	725.00	1335.4	23100.	17.298
1078	725.00	1329.1	23100.	17.381
589	725.00	1320.2	23100.	17.498
12	725.00	1320.2	23100.	17.498
588	725.00	1317.0	23100.	17.539
19	725.00	1305.0	23100.	17.701
597	725.00	1299.7	23100.	17.773
4	725.00	1299.6	23100.	17.775
93	725.00	1299.3	23100.	17.779
163	725.00	1292.3	23100.	17.875
333	725.00	1281.8	23100.	18.022
1084	725.00	1281.4	23100.	18.027
802	725.00	1270.1	23100.	18.188
840	725.00	1260.6	23100.	18.325

Table 3.AA.41 (continued)

1537	725.00	1258.0	23100.	18.362
1248	725.00	1257.5	23100.	18.369
590	725.00	1249.4	23100.	18.489
11	725.00	1249.4	23100.	18.489
14	725.00	1246.4	23100.	18.534
587	725.00	1246.3	23100.	18.535
1600	725.00	1242.8	23100.	18.586
801	725.00	1241.5	23100.	18.606
1515	725.00	1240.8	23100.	18.617
1030	725.00	1240.2	23100.	18.625
1446	725.00	1236.2	23100.	18.686
379	725.00	1236.0	23100.	18.689
1538	725.00	1232.4	23100.	18.744
839	725.00	1232.0	23100.	18.750
1247	725.00	1231.9	23100.	18.751
26	725.00	1231.7	23100.	18.754
1443	725.00	1222.6	23100.	18.894
382	725.00	1222.4	23100.	18.897
1396	725.00	1193.5	23100.	19.355
20	725.00	1193.0	23100.	19.363
581	725.00	1193.0	23100.	19.364
1413	725.00	1192.5	23100.	19.371
598	725.00	1190.7	23100.	19.401
3	725.00	1190.5	23100.	19.403
164	725.00	1180.8	23100.	19.563
1061	725.00	1180.1	23100.	19.575
168	725.00	1175.2	23100.	19.656
1057	725.00	1174.3	23100.	19.670
167	725.00	1169.1	23100.	19.759
1606	725.00	1168.7	23100.	19.765
577	725.00	1168.6	23100.	19.768
24	725.00	1168.5	23100.	19.768
1058	725.00	1168.3	23100.	19.773
795	725.00	1167.3	23100.	19.789
578	725.00	1161.9	23100.	19.881
23	725.00	1161.9	23100.	19.882
1069	725.00	1159.5	23100.	19.922
156	725.00	1158.6	23100.	19.938
1445	725.00	1117.9	23100.	20.664
380	725.00	1117.7	23100.	20.667
1070	725.00	1110.8	23100.	20.796
155	725.00	1109.9	23100.	20.813
1558	725.00	1092.2	23100.	21.151
1227	725.00	1091.4	23100.	21.165
172	725.00	1061.0	23100.	21.772
1269	725.00	1059.8	23100.	21.797
213	725.00	1052.5	23100.	21.948
52	725.00	1052.4	23100.	21.950
1395	725.00	1051.3	23100.	21.973
1414	725.00	1050.7	23100.	21.986
1245	725.00	1042.9	23100.	22.151
1540	725.00	1042.3	23100.	22.162
1458	725.00	1029.3	23100.	22.443

Table 3.AA.41 (continued)

210	725.00	1003.0	23100.	23.031
55	725.00	1002.8	23100.	23.035
66	725.00	1002.1	23100.	23.052
604	725.00	998.33	23100.	23.139
209	725.00	982.33	23100.	23.516
56	725.00	982.16	23100.	23.520
1629	725.00	981.11	23100.	23.545
1059	725.00	980.66	23100.	23.556
69	725.00	980.46	23100.	23.560
1036	725.00	980.21	23100.	23.566
65	725.00	978.31	23100.	23.612
1457	725.00	976.40	23100.	23.658
579	725.00	969.10	23100.	23.836
22	725.00	969.06	23100.	23.837
1276	725.00	968.17	23100.	23.859
171	725.00	955.12	23100.	24.185
1632	725.00	925.07	23100.	24.971
1033	725.00	922.61	23100.	25.038
1034	725.00	920.25	23100.	25.102
837	725.00	911.60	23100.	25.340
1588	725.00	903.36	23100.	25.571
813	725.00	902.80	23100.	25.587
1246	725.00	863.74	23100.	26.744
1564	725.00	853.70	23100.	27.059
838	725.00	836.39	23100.	27.619
27	725.00	836.25	23100.	27.623
370	725.00	835.60	23100.	27.645
1581	725.00	826.48	23100.	27.950
1584	725.00	815.16	23100.	28.338
1583	725.00	815.16	23100.	28.338
1418	725.00	813.63	23100.	28.391
585	725.00	797.88	23100.	28.952
592	725.00	797.03	23100.	28.983
9	725.00	797.02	23100.	28.983
57	725.00	773.83	23100.	29.851

Table 3.AA.41 (continued)

1630	725.00	768.25	23100.	30.068
1035	725.00	766.96	23100.	30.119
201	725.00	741.66	23100.	31.146
64	725.00	741.58	23100.	31.150
1612	725.00	735.12	23100.	31.423
1444	725.00	734.28	23100.	31.459
381	725.00	734.22	23100.	31.462
1053	725.00	733.96	23100.	31.473
1562	725.00	711.05	23100.	32.487
1561	725.00	711.05	23100.	32.487
1440	725.00	708.97	23100.	32.583
1439	725.00	708.97	23100.	32.583
1074	725.00	697.94	23100.	33.098
151	725.00	697.55	23100.	33.116
1582	725.00	686.41	23100.	33.654
1419	725.00	685.75	23100.	33.686
1071	725.00	678.24	23100.	34.059
154	725.00	677.65	23100.	34.088
1073	725.00	662.98	23100.	34.843
152	725.00	662.63	23100.	34.861
190	725.00	646.04	23100.	35.756
191	725.00	646.04	23100.	35.756
1251	725.00	645.25	23100.	35.800
1250	725.00	645.25	23100.	35.800
844	725.00	644.62	23100.	35.835
141	725.00	644.38	23100.	35.849
822	725.00	632.05	23100.	36.548
43	725.00	632.05	23100.	36.548
187	725.00	614.61	23100.	37.585
1254	725.00	613.68	23100.	37.641
10	725.00	612.81	23100.	37.695
591	725.00	612.80	23100.	37.696
15	725.00	610.56	23100.	37.834
586	725.00	610.50	23100.	37.838
1563	725.00	607.47	23100.	38.027
1438	725.00	606.40	23100.	38.094
818	725.00	571.71	23100.	40.405
819	725.00	571.71	23100.	40.405
47	725.00	571.67	23100.	40.408
46	725.00	571.67	23100.	40.408
821	725.00	558.44	23100.	41.365
44	725.00	558.44	23100.	41.366
165	725.00	555.90	23100.	41.554
1060	725.00	555.82	23100.	41.560
189	725.00	551.10	23100.	41.916
1252	725.00	550.87	23100.	41.933
580	725.00	539.05	23100.	42.853
21	725.00	539.01	23100.	42.856
188	725.00	538.90	23100.	42.865
1253	725.00	538.04	23100.	42.934
207	725.00	534.18	23100.	43.244
58	725.00	534.16	23100.	43.246
192	725.00	503.75	23100.	45.856

Table 3.AA.41 (continued)

1249	725.00	502.40	23100.	45.979
820	725.00	496.13	23100.	46.560
45	725.00	496.11	23100.	46.562
180	725.00	486.34	23100.	47.497
1261	725.00	484.93	23100.	47.636
63	725.00	473.49	23100.	48.787
202	725.00	473.49	23100.	48.787
1609	725.00	470.60	23100.	49.086
1610	725.00	470.60	23100.	49.086
1456	725.00	470.55	23100.	49.091
369	725.00	470.09	23100.	49.140
1055	725.00	469.11	23100.	49.242
1056	725.00	469.11	23100.	49.242
179	725.00	468.81	23100.	49.274
1262	725.00	467.48	23100.	49.414
817	725.00	410.05	23100.	56.334
48	725.00	410.00	23100.	56.341
204	725.00	401.96	23100.	57.468
61	725.00	401.82	23100.	57.488
829	725.00	389.41	23100.	59.320
36	725.00	389.36	23100.	59.328
830	725.00	378.51	23100.	61.028
35	725.00	378.46	23100.	61.036
203	725.00	364.44	23100.	63.386
62	725.00	364.26	23100.	63.416
1611	725.00	355.75	23100.	64.933
1054	725.00	355.10	23100.	65.053
178	725.00	324.30	23100.	71.231
1263	725.00	323.72	23100.	71.359
1072	725.00	322.80	23100.	71.561
153	725.00	322.75	23100.	71.573
831	725.00	295.22	23100.	78.248
34	725.00	295.19	23100.	78.255
205	725.00	282.88	23100.	81.660
60	725.00	282.75	23100.	81.697
59	725.00	263.13	23100.	87.790
206	725.00	263.08	23100.	87.805
832	725.00	243.27	23100.	94.955
33	725.00	243.27	23100.	94.957
31	725.00	236.53	23100.	97.662
834	725.00	236.49	23100.	97.679
32	725.00	233.48	23100.	98.937
833	725.00	233.44	23100.	98.954
1264	725.00	211.31	23100.	109.32
177	725.00	211.13	23100.	109.41
175	725.00	151.73	23100.	152.24
1266	725.00	150.00	23100.	154.00
176	725.00	147.97	23100.	156.12
1265	725.00	146.31	23100.	157.88

Table 3.AA.42

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Enclosure Vessel
SUBTITLE 2 =
Load Combination: E2 (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1747	450.00	6837.2	18100.	2.6473
1830	450.00	6836.5	18100.	2.6475
1748	450.00	6833.8	18100.	2.6486
1829	450.00	6833.2	18100.	2.6488
1754	450.00	6804.6	18100.	2.6600
1823	450.00	6803.9	18100.	2.6602
1755	450.00	6803.3	18100.	2.6605
1822	450.00	6802.7	18100.	2.6607
1864	450.00	6780.0	18100.	2.6696
1863	450.00	6780.0	18100.	2.6696
1865	450.00	6780.0	18100.	2.6696
1862	450.00	6780.0	18100.	2.6696
1866	450.00	6779.9	18100.	2.6696
1861	450.00	6779.9	18100.	2.6697
1869	450.00	6778.5	18100.	2.6702
1858	450.00	6778.3	18100.	2.6703
1870	450.00	6777.9	18100.	2.6704
1857	450.00	6777.7	18100.	2.6705
1871	450.00	6777.3	18100.	2.6707
1856	450.00	6777.0	18100.	2.6708
1874	450.00	6773.8	18100.	2.6721
1853	450.00	6773.5	18100.	2.6722
1875	450.00	6773.1	18100.	2.6724
1852	450.00	6772.7	18100.	2.6725
1876	450.00	6772.3	18100.	2.6726
1851	450.00	6772.0	18100.	2.6728
1877	450.00	6771.5	18100.	2.6729
1850	450.00	6771.2	18100.	2.6731
1878	450.00	6770.8	18100.	2.6733
1849	450.00	6770.4	18100.	2.6734
1879	450.00	6769.9	18100.	2.6736
1848	450.00	6769.3	18100.	2.6738
1880	450.00	6768.7	18100.	2.6741
1847	450.00	6768.2	18100.	2.6743
1872	450.00	6767.7	18100.	2.6745
1881	450.00	6767.6	18100.	2.6745
1855	450.00	6767.4	18100.	2.6746
1846	450.00	6767.0	18100.	2.6748
1873	450.00	6766.9	18100.	2.6748

Table 3.AA.42 (continued)

1854	450.00	6766.5	18100.	2.6749
1882	450.00	6766.4	18100.	2.6750
1883	450.00	6765.2	18100.	2.6755
1742	450.00	6764.8	18100.	2.6756
1884	450.00	6764.0	18100.	2.6759
1835	450.00	6763.9	18100.	2.6760
1843	450.00	6763.2	18100.	2.6762
1784	450.00	6762.9	18100.	2.6764
1834	450.00	6762.8	18100.	2.6764
1885	450.00	6762.7	18100.	2.6764
1886	450.00	6761.5	18100.	2.6769
1841	450.00	6760.8	18100.	2.6772
1840	450.00	6759.8	18100.	2.6776
1738	450.00	6759.5	18100.	2.6777
1739	450.00	6758.6	18100.	2.6781
1838	450.00	6758.0	18100.	2.6783
1837	450.00	6757.1	18100.	2.6786
1785	450.00	6757.0	18100.	2.6787
1741	450.00	6756.9	18100.	2.6787
1836	450.00	6756.3	18100.	2.6790
1833	450.00	6749.9	18100.	2.6815
1745	450.00	6749.8	18100.	2.6816
1746	450.00	6748.8	18100.	2.6820
1831	450.00	6747.8	18100.	2.6823
1796	450.00	6743.2	18100.	2.6842
1782	450.00	6743.1	18100.	2.6842
1794	450.00	6743.0	18100.	2.6843
1795	450.00	6743.0	18100.	2.6843
1750	450.00	6741.1	18100.	2.6850
1828	450.00	6740.9	18100.	2.6851
1827	450.00	6740.2	18100.	2.6854
1752	450.00	6740.0	18100.	2.6854
1753	450.00	6739.6	18100.	2.6856
1825	450.00	6739.2	18100.	2.6858
1758	450.00	6734.4	18100.	2.6877
1757	450.00	6734.2	18100.	2.6878

Table 3.AA.42 (continued)

1756	450.00	6734.2	18100.	2.6878
1819	450.00	6733.5	18100.	2.6881
1820	450.00	6733.3	18100.	2.6881
1821	450.00	6733.3	18100.	2.6881
1775	450.00	6732.1	18100.	2.6886
1802	450.00	6731.7	18100.	2.6888
1774	450.00	6731.7	18100.	2.6888
1776	450.00	6731.6	18100.	2.6888
1759	450.00	6731.4	18100.	2.6889
1803	450.00	6731.3	18100.	2.6889
1760	450.00	6731.3	18100.	2.6889
1801	450.00	6731.3	18100.	2.6890
1779	450.00	6731.0	18100.	2.6890
1761	450.00	6730.9	18100.	2.6891
1798	450.00	6730.8	18100.	2.6891
1818	450.00	6730.5	18100.	2.6892
1780	450.00	6730.5	18100.	2.6892
1817	450.00	6730.4	18100.	2.6893
1797	450.00	6730.3	18100.	2.6893
1816	450.00	6730.3	18100.	2.6893
1762	450.00	6730.2	18100.	2.6894
1763	450.00	6729.6	18100.	2.6896
1815	450.00	6729.6	18100.	2.6896
1764	450.00	6729.2	18100.	2.6898
1814	450.00	6729.0	18100.	2.6898
1813	450.00	6728.6	18100.	2.6900
1765	450.00	6728.2	18100.	2.6902
1812	450.00	6727.6	18100.	2.6904
1791	450.00	6713.6	18100.	2.6960
1786	450.00	6713.5	18100.	2.6960
1790	450.00	6713.4	18100.	2.6961
1787	450.00	6713.3	18100.	2.6961
1789	450.00	6713.2	18100.	2.6962
1788	450.00	6713.1	18100.	2.6962
1867	450.00	6710.1	18100.	2.6974
1860	450.00	6710.0	18100.	2.6975
1868	450.00	6705.6	18100.	2.6992
1859	450.00	6705.5	18100.	2.6993
1766	450.00	6698.8	18100.	2.7020
1767	450.00	6698.6	18100.	2.7021
1811	450.00	6698.0	18100.	2.7023
1768	450.00	6698.0	18100.	2.7023
1810	450.00	6697.9	18100.	2.7024
1809	450.00	6697.2	18100.	2.7026
1769	450.00	6696.7	18100.	2.7028
1771	450.00	6696.4	18100.	2.7029
1770	450.00	6696.3	18100.	2.7030
1808	450.00	6696.0	18100.	2.7031
1806	450.00	6695.8	18100.	2.7032
1772	450.00	6695.8	18100.	2.7032
1807	450.00	6695.6	18100.	2.7032
1805	450.00	6695.2	18100.	2.7034
1773	450.00	6694.6	18100.	2.7037

1804	450.00	6694.0	18100.	2.7039
1800	450.00	6681.7	18100.	2.7089
1778	450.00	6681.3	18100.	2.7091

TITLE=

SUBTITLE 1 =
Component: Enclosure Vessel

Load Combination: E2 (See Table 3.1.4)
SUBTITLE 3 =

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT	CURRENT	MIXED	PREVIOUS	PREVIOUS
1864	450.00	9184.1	27200.	2.9616
1863	450.00	9184.1	27200.	2.9616
1862	450.00	9180.9	27200.	2.9627
1866	450.00	9171.2	27200.	2.9658
1867	450.00	9085.5	27200.	2.9938
1860	450.00	9085.5	27200.	2.9938
1830	450.00	9069.2	27200.	2.9992
1748	450.00	9065.3	27200.	3.0005
1869	450.00	9030.4	27200.	3.0120
1858	450.00	9030.4	27200.	3.0120
1831	450.00	8979.9	27200.	3.0290
1832	450.00	8976.2	27200.	3.0302
1749	450.00	8973.8	27200.	3.0310
1828	450.00	8973.8	27200.	3.0310
1859	450.00	8957.4	27200.	3.0366
1744	450.00	8938.3	27200.	3.0431
1750	450.00	8911.4	27200.	3.0523
1827	450.00	8911.4	27200.	3.0523
1857	450.00	8883.1	27200.	3.0620
1751	450.00	8815.0	27200.	3.0856
1871	450.00	8725.8	27200.	3.1172
1856	450.00	8725.8	27200.	3.1172
1825	450.00	8683.5	27200.	3.1324
1836	450.00	8598.6	27200.	3.1633
1753	450.00	8515.8	27200.	3.1941
1824	450.00	8515.8	27200.	3.1941

Table 3.AA.43 (continued)

1740	450.00	8510.6	27200.	3.1960
1743	450.00	8467.1	27200.	3.2124
1834	450.00	8467.1	27200.	3.2124
1838	450.00	8411.2	27200.	3.2338
1739	450.00	8411.2	27200.	3.2338
1754	450.00	8376.2	27200.	3.2473
1823	450.00	8376.2	27200.	3.2473
1835	450.00	8366.7	27200.	3.2510
1742	450.00	8366.7	27200.	3.2510
1839	450.00	8303.9	27200.	3.2755
1738	450.00	8303.9	27200.	3.2756
1872	450.00	8224.6	27200.	3.3071
1855	450.00	8224.6	27200.	3.3071
1840	450.00	8187.3	27200.	3.3222
1737	450.00	8187.3	27200.	3.3222
1874	450.00	8112.0	27200.	3.3531
1853	450.00	8112.0	27200.	3.3531
1841	450.00	8062.1	27200.	3.3738
1886	450.00	8062.1	27200.	3.3738
1873	450.00	8025.7	27200.	3.3891
1854	450.00	8025.7	27200.	3.3891
1755	450.00	8020.3	27200.	3.3914
1822	450.00	8020.3	27200.	3.3914
1756	450.00	7951.9	27200.	3.4206
1821	450.00	7951.9	27200.	3.4206
1875	450.00	7935.4	27200.	3.4277
1852	450.00	7935.4	27200.	3.4277
1842	450.00	7876.6	27200.	3.4533
1885	450.00	7876.6	27200.	3.4533
1876	450.00	7756.9	27200.	3.5065
1851	450.00	7756.9	27200.	3.5065
1843	450.00	7678.0	27200.	3.5426
1884	450.00	7678.0	27200.	3.5426
1877	450.00	7581.4	27200.	3.5877
1850	450.00	7581.4	27200.	3.5877
1757	450.00	7580.7	27200.	3.5881
1820	450.00	7580.7	27200.	3.5881
1793	450.00	7497.5	27200.	3.6279
1784	450.00	7497.4	27200.	3.6279
1794	450.00	7477.5	27200.	3.6376
1783	450.00	7477.5	27200.	3.6376
1844	450.00	7468.0	27200.	3.6422
1883	450.00	7468.0	27200.	3.6422
1792	450.00	7439.5	27200.	3.6562
1785	450.00	7439.4	27200.	3.6562
1775	450.00	7423.4	27200.	3.6641
1802	450.00	7423.4	27200.	3.6641
1774	450.00	7422.7	27200.	3.6644
1803	450.00	7422.6	27200.	3.6645
1768	450.00	7407.4	27200.	3.6720
1809	450.00	7407.4	27200.	3.6720
1769	450.00	7406.9	27200.	3.6723
1808	450.00	7406.9	27200.	3.6723

Table 3.AA.43 (continued)

1849	450.00	7405.2	27200.	3.6731
1806	450.00	7404.0	27200.	3.6737
1807	450.00	7403.3	27200.	3.6741
1770	450.00	7403.3	27200.	3.6741
1786	450.00	7396.0	27200.	3.6776
1798	450.00	7394.6	27200.	3.6784
1779	450.00	7394.4	27200.	3.6785
1780	450.00	7394.2	27200.	3.6786
1801	450.00	7375.9	27200.	3.6877
1813	450.00	7375.1	27200.	3.6881
1812	450.00	7374.7	27200.	3.6883
1765	450.00	7374.7	27200.	3.6883
1805	450.00	7365.7	27200.	3.6928
1773	450.00	7365.2	27200.	3.6931
1795	450.00	7362.8	27200.	3.6942
1782	450.00	7362.7	27200.	3.6943
1787	450.00	7350.0	27200.	3.7007
1810	450.00	7336.1	27200.	3.7077
1811	450.00	7335.5	27200.	3.7080
1766	450.00	7335.5	27200.	3.7080
1781	450.00	7324.1	27200.	3.7138
1814	450.00	7320.8	27200.	3.7154
1761	450.00	7314.9	27200.	3.7184
1816	450.00	7314.9	27200.	3.7184
1777	450.00	7291.1	27200.	3.7306
1799	450.00	7290.9	27200.	3.7307
1815	450.00	7284.9	27200.	3.7337
1762	450.00	7284.9	27200.	3.7337
1788	450.00	7264.4	27200.	3.7443
1845	450.00	7248.6	27200.	3.7524
1760	450.00	7234.0	27200.	3.7600
1817	450.00	7234.0	27200.	3.7600
1848	450.00	7228.7	27200.	3.7628
1818	450.00	7210.9	27200.	3.7721
1758	450.00	7151.6	27200.	3.8034

Table 3.AA.43 (continued)

1819	450.00	7151.6	27200.	3.8034
1846	450.00	7021.6	27200.	3.8738
1881	450.00	7021.6	27200.	3.8738
1880	450.00	6986.7	27200.	3.8931
1847	450.00	6986.7	27200.	3.8931

Table 3.AA.44

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E2 (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1714	450.00	-3090.7	18100.	5.8562
1637	450.00	-3090.7	18100.	5.8562
1663	450.00	-3090.1	18100.	5.8575
1696	450.00	-3090.1	18100.	5.8575
1664	450.00	-3089.1	18100.	5.8593
1697	450.00	-3089.1	18100.	5.8593
1643	450.00	-3088.8	18100.	5.8598
1720	450.00	-3088.8	18100.	5.8598
1642	450.00	-3088.8	18100.	5.8599
1719	450.00	-3088.8	18100.	5.8599
1641	450.00	-3088.5	18100.	5.8605
1718	450.00	-3088.5	18100.	5.8605
1665	450.00	-3088.2	18100.	5.8610
1698	450.00	-3088.2	18100.	5.8610
1715	450.00	-3087.6	18100.	5.8621
1638	450.00	-3087.6	18100.	5.8621
1640	450.00	-3087.1	18100.	5.8631
1717	450.00	-3087.1	18100.	5.8631
1716	450.00	-3086.3	18100.	5.8646
1639	450.00	-3086.3	18100.	5.8646
1662	450.00	-3086.1	18100.	5.8650
1695	450.00	-3086.1	18100.	5.8650
1658	450.00	-3084.6	18100.	5.8679
1691	450.00	-3084.6	18100.	5.8679
1657	450.00	-3084.0	18100.	5.8690
1690	450.00	-3084.0	18100.	5.8690
1656	450.00	-3083.5	18100.	5.8700
1689	450.00	-3083.5	18100.	5.8700
1655	450.00	-3082.9	18100.	5.8711
1688	450.00	-3082.9	18100.	5.8711
1659	450.00	-3080.1	18100.	5.8764
1692	450.00	-3080.1	18100.	5.8764
1661	450.00	-3079.4	18100.	5.8778
1694	450.00	-3079.4	18100.	5.8778
1660	450.00	-3076.1	18100.	5.8841
1693	450.00	-3076.1	18100.	5.8841
1644	450.00	-202.79	18100.	89.253
1645	450.00	-202.73	18100.	89.283
1699	450.00	-202.59	18100.	89.344

Table 3.AA.44 (continued)

1700	450.00	-202.52	18100.	89.374
1646	450.00	-202.17	18100.	89.529
1701	450.00	-201.96	18100.	89.621
1647	450.00	-201.61	18100.	89.777
1702	450.00	-201.40	18100.	89.869
1648	450.00	-193.04	18100.	93.764
1703	450.00	-192.84	18100.	93.861
1654	450.00	-97.054	18100.	186.49
1653	450.00	-96.963	18100.	186.67
1709	450.00	-96.960	18100.	186.68
1708	450.00	-96.869	18100.	186.85
1652	450.00	-96.028	18100.	188.49
1707	450.00	-95.934	18100.	188.67
1649	450.00	-94.792	18100.	190.95
1704	450.00	-94.690	18100.	191.15
1651	450.00	-85.019	18100.	212.89
1706	450.00	-84.933	18100.	213.11
1650	450.00	-45.625	18100.	396.72
1705	450.00	-45.576	18100.	397.14
1671	450.00	-18.440	18100.	981.58
1682	450.00	-18.440	18100.	981.58
1672	450.00	-14.767	18100.	1225.7
1683	450.00	-14.767	18100.	1225.7
1670	450.00	-12.427	18100.	1456.5
1681	450.00	-12.427	18100.	1456.5
1673	450.00	-6.3181	18100.	2864.8
1684	450.00	-6.3181	18100.	2864.8
1669	450.00	-6.1885	18100.	2924.8
1680	450.00	-6.1885	18100.	2924.8
1668	450.00	-5.6307	18100.	3214.5
1679	450.00	-5.6307	18100.	3214.5
1667	450.00	-5.0729	18100.	3568.0
1678	450.00	-5.0729	18100.	3568.0
1666	450.00	-4.5151	18100.	4008.7
1677	450.00	-4.5151	18100.	4008.7
1710	450.00	-3.4620	18100.	5228.2
1633	450.00	-3.4620	18100.	5228.2
1711	450.00	-3.3936	18100.	5333.6
1634	450.00	-3.3936	18100.	5333.6
1712	450.00	-2.8358	18100.	6382.6
1635	450.00	-2.8358	18100.	6382.6
1713	450.00	-2.2780	18100.	7945.4
1636	450.00	-2.2780	18100.	7945.4
1674	450.00	-1.0669	18100.	16965.
1685	450.00	-1.0669	18100.	16965.
1675	450.00	-.72669	18100.	24908.
1686	450.00	-.72669	18100.	24908.
1676	450.00	-.38648	18100.	46833.
1687	450.00	-.38648	18100.	46833.

Table 3.AA.45

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E2 (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1713	450.00	3015.0	27200.	9.0217
1636	450.00	3015.0	27200.	9.0217
1714	450.00	3006.8	27200.	9.0463
1637	450.00	3006.8	27200.	9.0463
1718	450.00	2995.7	27200.	9.0796
1641	450.00	2995.7	27200.	9.0796
1717	450.00	2968.7	27200.	9.1623
1640	450.00	2968.7	27200.	9.1623
1715	450.00	2967.5	27200.	9.1661
1638	450.00	2967.5	27200.	9.1661
1716	450.00	2966.5	27200.	9.1691
1639	450.00	2966.5	27200.	9.1691
1712	450.00	2923.6	27200.	9.3036
1635	450.00	2923.6	27200.	9.3036
1711	450.00	2848.4	27200.	9.5491
1634	450.00	2848.4	27200.	9.5491
1710	450.00	2840.3	27200.	9.5764
1633	450.00	2840.3	27200.	9.5764
1658	450.00	2830.3	27200.	9.6102
1691	450.00	2830.3	27200.	9.6102
1719	450.00	2821.2	27200.	9.6413
1642	450.00	2821.2	27200.	9.6413
1720	450.00	2800.2	27200.	9.7135
1643	450.00	2800.2	27200.	9.7135
1662	450.00	2798.9	27200.	9.7182
1695	450.00	2798.9	27200.	9.7182
1700	450.00	2791.2	27200.	9.7449
1645	450.00	2790.5	27200.	9.7473
1680	450.00	2787.6	27200.	9.7574
1669	450.00	2787.6	27200.	9.7574
1701	450.00	2756.2	27200.	9.8686
1646	450.00	2755.9	27200.	9.8697
1699	450.00	2729.7	27200.	9.9644
1644	450.00	2728.9	27200.	9.9673
1684	450.00	2722.0	27200.	9.9928
1673	450.00	2722.0	27200.	9.9928
1661	450.00	2707.2	27200.	10.047
1694	450.00	2707.2	27200.	10.047
1659	450.00	2703.4	27200.	10.061

Table 3.AA.45 (continued)

1692	450.00	2703.4	27200.	10.061
1660	450.00	2699.5	27200.	10.076
1663	450.00	2688.0	27200.	10.119
1696	450.00	2688.0	27200.	10.119
1670	450.00	2632.8	27200.	10.331
1682	450.00	2632.8	27200.	10.331
1683	450.00	2629.0	27200.	10.346
1672	450.00	2629.0	27200.	10.346
1674	450.00	2601.9	27200.	10.454
1657	450.00	2598.6	27200.	10.467
1707	450.00	2565.1	27200.	10.604
1652	450.00	2564.6	27200.	10.606
1668	450.00	2467.8	27200.	11.022
1656	450.00	2252.7	27200.	12.074
1702	450.00	2212.2	27200.	12.296
1655	450.00	2211.4	27200.	12.300
1647	450.00	2211.2	27200.	12.301
1703	450.00	2204.2	27200.	12.340
1708	450.00	2194.9	27200.	12.392
1653	450.00	2194.3	27200.	12.396
1651	450.00	2123.1	27200.	12.811
1709	450.00	2117.8	27200.	12.844
1664	450.00	2114.2	27200.	12.865
1697	450.00	2114.2	27200.	12.865
1698	450.00	2057.7	27200.	13.218
1678	450.00	2022.6	27200.	13.448
1677	450.00	1969.1	27200.	13.813
1666	450.00	1969.1	27200.	13.813
1704	450.00	1916.7	27200.	14.191
1650	450.00	1869.1	27200.	14.552
1686	450.00	1860.7	27200.	14.618
1675	450.00	1860.7	27200.	14.618
1676	450.00	1786.8	27200.	15.223

Table 3.AA.46

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Fuel Basket
SUBTITLE 2 =
Load Combination: F3.b (See Table 3.1.3)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	CURRENT PM	PREVIOUS ALLOW	PREVIOUS SF
1603	725.00	-12031.	36950.	3.0713
1604	725.00	-12027.	36950.	3.0723
1605	725.00	-11991.	36950.	3.0816
1606	725.00	-11955.	36950.	3.0909
1607	725.00	-11919.	36950.	3.1002
1608	725.00	-11883.	36950.	3.1096
1627	725.00	-11692.	36950.	3.1604
1597	725.00	-11692.	36950.	3.1604
1628	725.00	-11688.	36950.	3.1614
1598	725.00	-11688.	36950.	3.1614
1629	725.00	-11652.	36950.	3.1712
1599	725.00	-11652.	36950.	3.1712
1630	725.00	-11616.	36950.	3.1810
1600	725.00	-11616.	36950.	3.1810
1631	725.00	-11580.	36950.	3.1909
1601	725.00	-11580.	36950.	3.1909
1632	725.00	-11544.	36950.	3.2009
1602	725.00	-11544.	36950.	3.2009
1507	725.00	-10746.	36950.	3.4386
1508	725.00	-10742.	36950.	3.4398
1509	725.00	-10706.	36950.	3.4514
1510	725.00	-10670.	36950.	3.4630
1511	725.00	-10634.	36950.	3.4748
1512	725.00	-10598.	36950.	3.4866
1531	725.00	-10376.	36950.	3.5612
1483	725.00	-10376.	36950.	3.5612
1532	725.00	-10372.	36950.	3.5625
1484	725.00	-10372.	36950.	3.5626
1533	725.00	-10336.	36950.	3.5750
1485	725.00	-10336.	36950.	3.5750
1534	725.00	-10300.	36950.	3.5875
1486	725.00	-10300.	36950.	3.5875
1535	725.00	-10264.	36950.	3.6000
1487	725.00	-10264.	36950.	3.6001
1536	725.00	-10228.	36950.	3.6127
1488	725.00	-10228.	36950.	3.6127
1339	725.00	-9445.1	36950.	3.9121
1340	725.00	-9441.2	36950.	3.9137
1341	725.00	-9405.2	36950.	3.9287

Table 3.AA.46 (continued)

1342	725.00	-9369.2	36950.	3.9438
1343	725.00	-9333.2	36950.	3.9590
1344	725.00	-9297.2	36950.	3.9743
1555	725.00	-9196.9	36950.	4.0177
1459	725.00	-9196.8	36950.	4.0177
1556	725.00	-9193.0	36950.	4.0194
1460	725.00	-9192.9	36950.	4.0194
1453	725.00	-9167.0	36950.	4.0308
1579	725.00	-9165.5	36950.	4.0314
1454	725.00	-9163.1	36950.	4.0325
1580	725.00	-9161.6	36950.	4.0331
1557	725.00	-9157.0	36950.	4.0352
1461	725.00	-9156.8	36950.	4.0352
1455	725.00	-9127.1	36950.	4.0484
1581	725.00	-9125.6	36950.	4.0490
1558	725.00	-9121.0	36950.	4.0511
1462	725.00	-9120.8	36950.	4.0512
1456	725.00	-9091.1	36950.	4.0644
1582	725.00	-9089.6	36950.	4.0651
1559	725.00	-9085.0	36950.	4.0671
1463	725.00	-9084.8	36950.	4.0672
1457	725.00	-9055.1	36950.	4.0806
1583	725.00	-9053.6	36950.	4.0812
1560	725.00	-9049.0	36950.	4.0833
1464	725.00	-9048.8	36950.	4.0834
1363	725.00	-9036.9	36950.	4.0888
1315	725.00	-9036.9	36950.	4.0888
1364	725.00	-9033.0	36950.	4.0905
1316	725.00	-9033.0	36950.	4.0906
1458	725.00	-9019.1	36950.	4.0969
1584	725.00	-9017.6	36950.	4.0975
1365	725.00	-8997.0	36950.	4.1069
1317	725.00	-8997.0	36950.	4.1069
1366	725.00	-8961.0	36950.	4.1234
1318	725.00	-8961.0	36950.	4.1234
1367	725.00	-8925.0	36950.	4.1401
1319	725.00	-8925.0	36950.	4.1401
1368	725.00	-8889.0	36950.	4.1568
1320	725.00	-8889.0	36950.	4.1568
1147	725.00	-8145.9	36950.	4.5360
1148	725.00	-8142.0	36950.	4.5382
1149	725.00	-8106.0	36950.	4.5583
1150	725.00	-8070.0	36950.	4.5787
1151	725.00	-8034.0	36950.	4.5992
1152	725.00	-7998.0	36950.	4.6199
1387	725.00	-7943.6	36950.	4.6515
1291	725.00	-7943.5	36950.	4.6516
1388	725.00	-7939.8	36950.	4.6538
1292	725.00	-7939.6	36950.	4.6539
1389	725.00	-7903.7	36950.	4.6750
1293	725.00	-7903.6	36950.	4.6751
1390	725.00	-7867.7	36950.	4.6964
1294	725.00	-7867.6	36950.	4.6965

Table 3.AA.46 (continued)

1391	725.00	-7831.7	36950.	4.7180
1295	725.00	-7831.6	36950.	4.7181
1392	725.00	-7795.7	36950.	4.7398
1296	725.00	-7795.6	36950.	4.7399
1267	725.00	-7773.3	36950.	4.7534
1411	725.00	-7772.0	36950.	4.7542
1268	725.00	-7769.4	36950.	4.7558
1412	725.00	-7768.1	36950.	4.7566
1269	725.00	-7733.4	36950.	4.7780
1413	725.00	-7732.1	36950.	4.7788
1171	725.00	-7703.8	36950.	4.7964
1123	725.00	-7703.7	36950.	4.7964
1172	725.00	-7699.9	36950.	4.7988
1124	725.00	-7699.8	36950.	4.7988
1270	725.00	-7697.4	36950.	4.8003
1414	725.00	-7696.1	36950.	4.8011
1173	725.00	-7663.8	36950.	4.8213
1125	725.00	-7663.8	36950.	4.8214
1271	725.00	-7661.4	36950.	4.8229
1415	725.00	-7660.1	36950.	4.8237
1174	725.00	-7627.8	36950.	4.8441
1126	725.00	-7627.8	36950.	4.8441
1272	725.00	-7625.4	36950.	4.8456
1416	725.00	-7624.1	36950.	4.8465
1175	725.00	-7591.8	36950.	4.8671
1127	725.00	-7591.8	36950.	4.8671
1176	725.00	-7555.8	36950.	4.8903
1128	725.00	-7555.8	36950.	4.8903
931	725.00	-6847.3	36950.	5.3963
932	725.00	-6843.4	36950.	5.3994
933	725.00	-6807.4	36950.	5.4279
934	725.00	-6771.4	36950.	5.4568
935	725.00	-6735.3	36950.	5.4860
936	725.00	-6699.3	36950.	5.5155
1195	725.00	-6673.4	36950.	5.5369
1099	725.00	-6673.3	36950.	5.5370
1196	725.00	-6669.5	36950.	5.5401
1100	725.00	-6669.4	36950.	5.5402
1197	725.00	-6633.5	36950.	5.5702
1101	725.00	-6633.4	36950.	5.5703
1198	725.00	-6597.5	36950.	5.6006
1102	725.00	-6597.4	36950.	5.6007
1199	725.00	-6561.5	36950.	5.6313
1103	725.00	-6561.4	36950.	5.6314
1200	725.00	-6525.5	36950.	5.6624
1104	725.00	-6525.4	36950.	5.6625
1075	725.00	-6392.5	36950.	5.7802
1219	725.00	-6391.4	36950.	5.7812
1076	725.00	-6388.6	36950.	5.7837
1220	725.00	-6387.5	36950.	5.7847
955	725.00	-6371.5	36950.	5.7993
907	725.00	-6371.5	36950.	5.7993
956	725.00	-6367.6	36950.	5.8028

Table 3.AA.46 (continued)

908	725.00	-6367.6	36950.	5.8029
1077	725.00	-6352.6	36950.	5.8165
957	725.00	-6331.6	36950.	5.8358
909	725.00	-6331.6	36950.	5.8359
1222	725.00	-6315.5	36950.	5.8507
958	725.00	-6295.6	36950.	5.8692
1079	725.00	-6280.6	36950.	5.8832
1223	725.00	-6279.5	36950.	5.8842
911	725.00	-6259.5	36950.	5.9030
1080	725.00	-6244.6	36950.	5.9171
960	725.00	-6223.6	36950.	5.9371
912	725.00	-6223.5	36950.	5.9372
692	725.00	-5545.6	36950.	6.6629
693	725.00	-5509.6	36950.	6.7065
695	725.00	-5437.6	36950.	6.7953
696	725.00	-5401.6	36950.	6.8406
883	725.00	-5395.4	36950.	6.8484
980	725.00	-5391.6	36950.	6.8533
981	725.00	-5355.6	36950.	6.8994
885	725.00	-5355.5	36950.	6.8995
886	725.00	-5319.5	36950.	6.9462
983	725.00	-5283.5	36950.	6.9934
984	725.00	-5247.5	36950.	7.0414
888	725.00	-5247.4	36950.	7.0415
1003	725.00	-5079.5	36950.	7.2744
860	725.00	-5076.4	36950.	7.2788
1435	725.00	-5048.6	36950.	7.3189
1261	725.00	-5046.9	36950.	7.3213
1262	725.00	-5043.0	36950.	7.3270
861	725.00	-5040.4	36950.	7.3308
667	725.00	-5039.6	36950.	7.3320
1005	725.00	-5039.6	36950.	7.3320
668	725.00	-5035.7	36950.	7.3376
1437	725.00	-5008.7	36950.	7.3772
862	725.00	-5004.4	36950.	7.3835
1006	725.00	-5003.6	36950.	7.3847

Table 3.AA.46 (continued)

717	725.00	-4999.7	36950.	7.3904
669	725.00	-4999.7	36950.	7.3905
1438	725.00	-4972.7	36950.	7.4306
1264	725.00	-4971.0	36950.	7.4331
863	725.00	-4968.4	36950.	7.4370
1007	725.00	-4967.6	36950.	7.4383
718	725.00	-4963.7	36950.	7.4441
670	725.00	-4963.7	36950.	7.4441
1439	725.00	-4936.7	36950.	7.4848
1265	725.00	-4935.0	36950.	7.4873
864	725.00	-4932.4	36950.	7.4913
1008	725.00	-4931.5	36950.	7.4926
719	725.00	-4927.7	36950.	7.4985
671	725.00	-4927.6	36950.	7.4985
1440	725.00	-4900.6	36950.	7.5398
1266	725.00	-4899.0	36950.	7.5424
720	725.00	-4891.7	36950.	7.5536
672	725.00	-4891.6	36950.	7.5537
1243	725.00	-4403.5	36950.	8.3911
1069	725.00	-4402.0	36950.	8.3940
1244	725.00	-4399.6	36950.	8.3985
1070	725.00	-4398.1	36950.	8.4014
1245	725.00	-4363.6	36950.	8.4679
1071	725.00	-4362.1	36950.	8.4708
1246	725.00	-4327.6	36950.	8.5383
1072	725.00	-4326.1	36950.	8.5413
1247	725.00	-4291.5	36950.	8.6100
1073	725.00	-4290.0	36950.	8.6130
1248	725.00	-4255.5	36950.	8.6828
1074	725.00	-4254.0	36950.	8.6859
475	725.00	-4252.7	36950.	8.6886
476	725.00	-4248.8	36950.	8.6965
477	725.00	-4212.8	36950.	8.7709
478	725.00	-4176.8	36950.	8.8465
479	725.00	-4140.8	36950.	8.9234
739	725.00	-4117.5	36950.	8.9738
643	725.00	-4117.5	36950.	8.9740
740	725.00	-4113.6	36950.	8.9824
644	725.00	-4113.6	36950.	8.9825
480	725.00	-4104.8	36950.	9.0017
741	725.00	-4077.6	36950.	9.0617
645	725.00	-4077.6	36950.	9.0618
742	725.00	-4041.6	36950.	9.1424
646	725.00	-4041.6	36950.	9.1425
743	725.00	-4005.6	36950.	9.2246
647	725.00	-4005.5	36950.	9.2247
744	725.00	-3969.6	36950.	9.3083
648	725.00	-3969.5	36950.	9.3084
619	725.00	-3764.9	36950.	9.8143
763	725.00	-3764.3	36950.	9.8158
620	725.00	-3761.0	36950.	9.8245
764	725.00	-3760.4	36950.	9.8260
621	725.00	-3725.0	36950.	9.9195

765	725.00	-3724.4	36950.	9.9210
451	725.00	-3707.9	36950.	9.9651
500	725.00	-3704.1	36950.	9.9755
622	725.00	-3689.0	36950.	10.016
766	725.00	-3688.4	36950.	10.018
453	725.00	-3668.0	36950.	10.074
623	725.00	-3653.0	36950.	10.115
502	725.00	-3632.1	36950.	10.173
454	725.00	-3632.0	36950.	10.173
768	725.00	-3616.4	36950.	10.217
503	725.00	-3596.0	36950.	10.275
504	725.00	-3560.0	36950.	10.379
456	725.00	-3560.0	36950.	10.379
835	725.00	-3020.5	36950.	12.233
1028	725.00	-3017.7	36950.	12.244
1029	725.00	-2981.7	36950.	12.392
837	725.00	-2980.6	36950.	12.397
284	725.00	-2952.5	36950.	12.515
1030	725.00	-2945.7	36950.	12.544
285	725.00	-2916.4	36950.	12.670
1031	725.00	-2909.7	36950.	12.699
286	725.00	-2880.4	36950.	12.828
1032	725.00	-2873.7	36950.	12.858
287	725.00	-2844.4	36950.	12.990
523	725.00	-2841.5	36950.	13.004
524	725.00	-2837.6	36950.	13.021
428	725.00	-2837.6	36950.	13.022
525	725.00	-2801.6	36950.	13.189
429	725.00	-2801.6	36950.	13.189
430	725.00	-2765.6	36950.	13.361
527	725.00	-2729.6	36950.	13.537
528	725.00	-2693.6	36950.	13.718
432	725.00	-2693.6	36950.	13.718
547	725.00	-2416.8	36950.	15.289
404	725.00	-2413.3	36950.	15.311

Table 3.AA.46 (continued)

405	725.00	-2377.3	36950.	15.543
549	725.00	-2376.9	36950.	15.545
307	725.00	-2374.9	36950.	15.559
259	725.00	-2374.9	36950.	15.559
308	725.00	-2371.0	36950.	15.584
260	725.00	-2371.0	36950.	15.584
406	725.00	-2341.2	36950.	15.782
550	725.00	-2340.9	36950.	15.785
309	725.00	-2335.0	36950.	15.825
261	725.00	-2334.9	36950.	15.825
407	725.00	-2305.2	36950.	16.029
551	725.00	-2304.9	36950.	16.031
310	725.00	-2299.0	36950.	16.072
262	725.00	-2298.9	36950.	16.073
408	725.00	-2269.2	36950.	16.283
552	725.00	-2268.9	36950.	16.286
311	725.00	-2263.0	36950.	16.328
263	725.00	-2262.9	36950.	16.328
312	725.00	-2227.0	36950.	16.592
264	725.00	-2226.9	36950.	16.592
115	725.00	-1669.1	36950.	22.138
116	725.00	-1665.2	36950.	22.190
787	725.00	-1647.6	36950.	22.426
595	725.00	-1647.0	36950.	22.435
788	725.00	-1643.7	36950.	22.479
596	725.00	-1643.1	36950.	22.488
117	725.00	-1629.2	36950.	22.681
789	725.00	-1607.7	36950.	22.983
597	725.00	-1607.1	36950.	22.992
118	725.00	-1593.1	36950.	23.193
331	725.00	-1574.5	36950.	23.468
235	725.00	-1574.5	36950.	23.468
790	725.00	-1571.7	36950.	23.509
598	725.00	-1571.1	36950.	23.519
332	725.00	-1570.6	36950.	23.526
236	725.00	-1570.6	36950.	23.526
119	725.00	-1557.1	36950.	23.730
791	725.00	-1535.7	36950.	24.060
599	725.00	-1535.1	36950.	24.071
333	725.00	-1534.6	36950.	24.078
237	725.00	-1534.6	36950.	24.078
120	725.00	-1521.1	36950.	24.291
792	725.00	-1499.7	36950.	24.638
600	725.00	-1499.0	36950.	24.649
334	725.00	-1498.6	36950.	24.657
238	725.00	-1498.6	36950.	24.657
335	725.00	-1462.6	36950.	25.264
239	725.00	-1462.6	36950.	25.264
336	725.00	-1426.6	36950.	25.901
240	725.00	-1426.6	36950.	25.902
139	725.00	-1046.2	36950.	35.318
91	725.00	-1046.2	36950.	35.319
140	725.00	-1042.3	36950.	35.450

Table 3.AA.46 (continued)

211	725.00	-1039.5	36950.	35.547
355	725.00	-1039.3	36950.	35.552
356	725.00	-1035.4	36950.	35.686
141	725.00	-1006.3	36950.	36.719
213	725.00	-999.57	36950.	36.966
357	725.00	-999.42	36950.	36.971
94	725.00	-970.25	36950.	38.083
214	725.00	-963.56	36950.	38.348
143	725.00	-934.28	36950.	39.549
95	725.00	-934.24	36950.	39.551
359	725.00	-927.40	36950.	39.842
144	725.00	-898.27	36950.	41.135
216	725.00	-891.54	36950.	41.445
360	725.00	-891.40	36950.	41.452
397	725.00	-831.01	36950.	44.464
572	725.00	-827.40	36950.	44.658
829	725.00	-794.46	36950.	46.510
1051	725.00	-794.10	36950.	46.531
399	725.00	-791.11	36950.	46.707
830	725.00	-790.56	36950.	46.739
574	725.00	-755.38	36950.	48.916
400	725.00	-755.10	36950.	48.934
1053	725.00	-754.19	36950.	48.993
575	725.00	-719.37	36950.	51.364
832	725.00	-718.54	36950.	51.423
1054	725.00	-718.18	36950.	51.450
402	725.00	-683.08	36950.	54.093
833	725.00	-682.53	36950.	54.136
834	725.00	-646.53	36950.	57.152
1056	725.00	-646.16	36950.	57.184
20	725.00	-307.87	36950.	120.02
21	725.00	-271.86	36950.	135.92
163	725.00	-258.82	36950.	142.76
68	725.00	-254.94	36950.	144.94
22	725.00	-235.85	36950.	156.67

Table 3.AA.46 (continued)

187	725.00	-224.01	36950.	164.95
61	725.00	-223.99	36950.	164.96
43	725.00	-223.72	36950.	165.16
13	725.00	-223.69	36950.	165.18
188	725.00	-220.11	36950.	167.87
62	725.00	-220.09	36950.	167.89
44	725.00	-219.82	36950.	168.09
14	725.00	-219.79	36950.	168.11
69	725.00	-218.93	36950.	168.78
165	725.00	-218.91	36950.	168.79
23	725.00	-199.84	36950.	184.90
189	725.00	-184.10	36950.	200.71
63	725.00	-184.08	36950.	200.73
45	725.00	-183.81	36950.	201.02
15	725.00	-183.78	36950.	201.05
70	725.00	-182.92	36950.	202.00
166	725.00	-182.91	36950.	202.02
379	725.00	-178.36	36950.	207.17
205	725.00	-178.23	36950.	207.32
380	725.00	-174.46	36950.	211.80
206	725.00	-174.33	36950.	211.95
24	725.00	-163.83	36950.	225.54
589	725.00	-162.67	36950.	227.14
811	725.00	-162.51	36950.	227.37
590	725.00	-158.77	36950.	232.72
812	725.00	-158.61	36950.	232.96
190	725.00	-148.09	36950.	249.51
64	725.00	-148.07	36950.	249.54
46	725.00	-147.80	36950.	250.00
16	725.00	-147.77	36950.	250.04
71	725.00	-146.91	36950.	251.51
167	725.00	-146.90	36950.	251.54
381	725.00	-138.45	36950.	266.88
207	725.00	-138.32	36950.	267.13
591	725.00	-122.76	36950.	300.98
813	725.00	-122.60	36950.	301.38
191	725.00	-112.08	36950.	329.67
65	725.00	-112.06	36950.	329.72
47	725.00	-111.79	36950.	330.53
17	725.00	-111.77	36950.	330.60
72	725.00	-110.90	36950.	333.17
168	725.00	-110.89	36950.	333.22
382	725.00	-102.44	36950.	360.70
208	725.00	-102.31	36950.	361.15
592	725.00	-86.756	36950.	425.91
814	725.00	-86.595	36950.	426.70
1422	725.00	78.944	36950.	468.05
1421	725.00	78.944	36950.	468.05
1420	725.00	78.944	36950.	468.05
1418	725.00	78.944	36950.	468.05
1419	725.00	78.944	36950.	468.05
1417	725.00	78.944	36950.	468.05
1226	725.00	-78.941	36950.	468.07

Table 3.AA.46 (continued)

1227	725.00	-78.941	36950.	468.07
1228	725.00	-78.941	36950.	468.07
1229	725.00	-78.941	36950.	468.07
1230	725.00	-78.941	36950.	468.07
1225	725.00	-78.941	36950.	468.07
1057	725.00	-78.871	36950.	468.49
1059	725.00	-78.871	36950.	468.49
1062	725.00	-78.871	36950.	468.49
1060	725.00	-78.871	36950.	468.49
1058	725.00	-78.871	36950.	468.49
1061	725.00	-78.871	36950.	468.49
1252	725.00	78.836	36950.	468.69
1253	725.00	78.836	36950.	468.69
1250	725.00	78.836	36950.	468.69
1254	725.00	78.836	36950.	468.69
1251	725.00	78.836	36950.	468.69
1249	725.00	78.836	36950.	468.69
192	725.00	-76.073	36950.	485.72
66	725.00	-76.054	36950.	485.84
48	725.00	-75.781	36950.	487.59
18	725.00	-75.757	36950.	487.75
558	725.00	73.926	36950.	499.83
555	725.00	73.926	36950.	499.83
556	725.00	73.926	36950.	499.83
557	725.00	73.926	36950.	499.83
554	725.00	73.926	36950.	499.83
553	725.00	73.926	36950.	499.83
385	725.00	73.799	36950.	500.68
390	725.00	73.799	36950.	500.68
386	725.00	73.799	36950.	500.68
388	725.00	73.799	36950.	500.68
389	725.00	73.799	36950.	500.68
387	725.00	73.799	36950.	500.68
578	725.00	-69.838	36950.	529.08
581	725.00	-69.838	36950.	529.08
580	725.00	-69.838	36950.	529.08
579	725.00	-69.838	36950.	529.08
582	725.00	-69.838	36950.	529.08
577	725.00	-69.838	36950.	529.08
797	725.00	-69.837	36950.	529.09
793	725.00	-69.837	36950.	529.09
795	725.00	-69.837	36950.	529.09
796	725.00	-69.837	36950.	529.09
794	725.00	-69.837	36950.	529.09
798	725.00	-69.837	36950.	529.09
383	725.00	-66.431	36950.	556.21
1492	725.00	-66.361	36950.	556.81
1490	725.00	-66.361	36950.	556.81
1493	725.00	-66.361	36950.	556.81
1491	725.00	-66.361	36950.	556.81
1494	725.00	-66.361	36950.	556.81
1489	725.00	-66.361	36950.	556.81
1518	725.00	-66.340	36950.	556.98

Table 3.AA.46 (continued)

1517	725.00	-66.340	36950.	556.98
1516	725.00	-66.340	36950.	556.98
1513	725.00	-66.340	36950.	556.98
1514	725.00	-66.340	36950.	556.98
1515	725.00	-66.340	36950.	556.98
209	725.00	-66.303	36950.	557.29
817	725.00	65.956	36950.	560.22
821	725.00	65.956	36950.	560.22
819	725.00	65.956	36950.	560.22
820	725.00	65.956	36950.	560.22
818	725.00	65.956	36950.	560.22
822	725.00	65.956	36950.	560.22
1033	725.00	65.843	36950.	561.18
1038	725.00	65.843	36950.	561.18
1037	725.00	65.843	36950.	561.18
1036	725.00	65.843	36950.	561.18
1034	725.00	65.843	36950.	561.18
1035	725.00	65.843	36950.	561.18
486	725.00	64.069	36950.	576.73
482	725.00	64.069	36950.	576.73
484	725.00	64.069	36950.	576.73
481	725.00	64.069	36950.	576.73
483	725.00	64.069	36950.	576.73
485	725.00	64.069	36950.	576.73
462	725.00	64.051	36950.	576.88
460	725.00	64.051	36950.	576.88
458	725.00	64.051	36950.	576.88
461	725.00	64.051	36950.	576.88
459	725.00	64.051	36950.	576.88
457	725.00	64.051	36950.	576.88
507	725.00	63.472	36950.	582.15
510	725.00	63.472	36950.	582.15
506	725.00	63.472	36950.	582.15
508	725.00	63.472	36950.	582.15
509	725.00	63.472	36950.	582.15
505	725.00	63.472	36950.	582.15
438	725.00	63.419	36950.	582.63
435	725.00	63.419	36950.	582.63
433	725.00	63.419	36950.	582.63
437	725.00	63.419	36950.	582.63
436	725.00	63.419	36950.	582.63
434	725.00	63.419	36950.	582.63
529	725.00	61.665	36950.	599.21
530	725.00	61.665	36950.	599.21
532	725.00	61.665	36950.	599.21
533	725.00	61.665	36950.	599.21
531	725.00	61.665	36950.	599.21
534	725.00	61.665	36950.	599.21
414	725.00	61.579	36950.	600.04
410	725.00	61.579	36950.	600.04
412	725.00	61.579	36950.	600.04
411	725.00	61.579	36950.	600.04
413	725.00	61.579	36950.	600.04

Table 3.AA.46 (continued)

409	725.00	61.579	36950.	600.04
1181	725.00	-60.050	36950.	615.32
1178	725.00	-60.050	36950.	615.32
1180	725.00	-60.050	36950.	615.32
1182	725.00	-60.050	36950.	615.32
1110	725.00	-60.023	36950.	615.60
1108	725.00	-60.023	36950.	615.60
1107	725.00	-60.023	36950.	615.60
1105	725.00	-60.023	36950.	615.60
1158	725.00	-59.558	36950.	620.41
1156	725.00	-59.558	36950.	620.41
1157	725.00	-59.558	36950.	620.41
1154	725.00	-59.558	36950.	620.41
1129	725.00	-59.549	36950.	620.50
1133	725.00	-59.549	36950.	620.50
1134	725.00	-59.549	36950.	620.50
1130	725.00	-59.549	36950.	620.50
1614	725.00	57.746	36950.	639.87
1609	725.00	57.746	36950.	639.87
1611	725.00	57.746	36950.	639.87
1612	725.00	57.746	36950.	639.87
1587	725.00	57.715	36950.	640.21
1590	725.00	57.715	36950.	640.21
1588	725.00	57.715	36950.	640.21
1589	725.00	57.715	36950.	640.21
1201	725.00	-55.852	36950.	661.57
1203	725.00	-55.852	36950.	661.57
1204	725.00	-55.852	36950.	661.57
1206	725.00	-55.852	36950.	661.57
1086	725.00	-55.805	36950.	662.13
1081	725.00	-55.805	36950.	662.13
1082	725.00	-55.805	36950.	662.13
1085	725.00	-55.805	36950.	662.13
593	725.00	-50.747	36950.	728.13
1564	725.00	47.558	36950.	776.94
1566	725.00	47.558	36950.	776.94

Table 3.AA.46 (continued)

1565	725.00	47.558	36950.	776.94
1563	725.00	47.558	36950.	776.94
1562	725.00	47.558	36950.	776.94
1561	725.00	47.558	36950.	776.94
1441	725.00	47.519	36950.	777.59
1446	725.00	47.519	36950.	777.59
1442	725.00	47.519	36950.	777.59
1444	725.00	47.519	36950.	777.59
1443	725.00	47.519	36950.	777.59
1445	725.00	47.519	36950.	777.59
193	725.00	-33.213	36950.	1112.5
198	725.00	-33.213	36950.	1112.5
197	725.00	-33.213	36950.	1112.5
196	725.00	-33.213	36950.	1112.5
195	725.00	-33.213	36950.	1112.5
194	725.00	-33.213	36950.	1112.5
366	725.00	-33.147	36950.	1114.7
363	725.00	-33.147	36950.	1114.7
361	725.00	-33.147	36950.	1114.7
362	725.00	-33.147	36950.	1114.7
365	725.00	-33.147	36950.	1114.7
364	725.00	-33.147	36950.	1114.7
384	725.00	-30.422	36950.	1214.6
210	725.00	-30.294	36950.	1219.7
625	725.00	-30.289	36950.	1219.9
626	725.00	-30.289	36950.	1219.9
627	725.00	-30.289	36950.	1219.9
629	725.00	-30.289	36950.	1219.9
628	725.00	-30.289	36950.	1219.9
630	725.00	-30.289	36950.	1219.9
745	725.00	-30.289	36950.	1219.9
750	725.00	-30.289	36950.	1219.9
749	725.00	-30.289	36950.	1219.9
747	725.00	-30.289	36950.	1219.9
748	725.00	-30.289	36950.	1219.9
746	725.00	-30.289	36950.	1219.9
649	725.00	-29.174	36950.	1266.6
654	725.00	-29.174	36950.	1266.6
650	725.00	-29.174	36950.	1266.6
651	725.00	-29.174	36950.	1266.6
653	725.00	-29.174	36950.	1266.6
652	725.00	-29.174	36950.	1266.6
721	725.00	-29.173	36950.	1266.6
724	725.00	-29.173	36950.	1266.6
722	725.00	-29.173	36950.	1266.6
723	725.00	-29.173	36950.	1266.6
725	725.00	-29.173	36950.	1266.6
726	725.00	-29.173	36950.	1266.6
35	725.00	-28.593	36950.	1292.3
34	725.00	-28.593	36950.	1292.3
31	725.00	-28.593	36950.	1292.3
32	725.00	-28.593	36950.	1292.3
33	725.00	-28.593	36950.	1292.3

36	725.00	-28.593	36950.	1292.3
9	725.00	-28.562	36950.	1293.7
10	725.00	-28.562	36950.	1293.7
12	725.00	-28.562	36950.	1293.7
7	725.00	-28.562	36950.	1293.7
674	725.00	-28.460	36950.	1298.3
675	725.00	-28.460	36950.	1298.3
678	725.00	-28.460	36950.	1298.3
676	725.00	-28.460	36950.	1298.3
698	725.00	-28.460	36950.	1298.3
701	725.00	-28.460	36950.	1298.3
700	725.00	-28.460	36950.	1298.3
702	725.00	-28.460	36950.	1298.3
604	725.00	-27.612	36950.	1338.2
602	725.00	-27.612	36950.	1338.2
603	725.00	-27.612	36950.	1338.2
601	725.00	-27.612	36950.	1338.2
770	725.00	-27.611	36950.	1338.2
771	725.00	-27.611	36950.	1338.2
769	725.00	-27.611	36950.	1338.2
774	725.00	-27.611	36950.	1338.2
98	725.00	25.902	36950.	1426.5
99	725.00	25.902	36950.	1426.5
97	725.00	25.902	36950.	1426.5
102	725.00	25.902	36950.	1426.5
122	725.00	25.884	36950.	1427.5
123	725.00	25.884	36950.	1427.5
126	725.00	25.884	36950.	1427.5
124	725.00	25.884	36950.	1427.5
178	725.00	-24.005	36950.	1539.3
176	725.00	-24.005	36950.	1539.3
175	725.00	-24.005	36950.	1539.3
180	725.00	-24.005	36950.	1539.3
58	725.00	-23.964	36950.	1541.9
56	725.00	-23.964	36950.	1541.9

Table 3.AA.46 (continued)

55	725.00	-23.964	36950.	1541.9
57	725.00	-23.964	36950.	1541.9
1	725.00	17.753	36950.	2081.3
2	725.00	17.753	36950.	2081.3
3	725.00	17.753	36950.	2081.3
4	725.00	17.753	36950.	2081.3
5	725.00	17.753	36950.	2081.3
6	725.00	17.753	36950.	2081.3
25	725.00	17.732	36950.	2083.8
26	725.00	17.732	36950.	2083.8
27	725.00	17.732	36950.	2083.8
28	725.00	17.732	36950.	2083.8
29	725.00	17.732	36950.	2083.8
30	725.00	17.732	36950.	2083.8
367	725.00	-15.342	36950.	2408.5
369	725.00	-15.342	36950.	2408.5
368	725.00	-15.342	36950.	2408.5
370	725.00	-15.342	36950.	2408.5
372	725.00	-15.342	36950.	2408.5
371	725.00	-15.342	36950.	2408.5
204	725.00	-15.239	36950.	2424.7
200	725.00	-15.239	36950.	2424.7
202	725.00	-15.239	36950.	2424.7
201	725.00	-15.239	36950.	2424.7
203	725.00	-15.239	36950.	2424.7
199	725.00	-15.239	36950.	2424.7
594	725.00	-14.737	36950.	2507.2
816	725.00	-14.577	36950.	2534.9
1537	725.00	14.235	36950.	2595.7
1539	725.00	14.235	36950.	2595.7
1540	725.00	14.235	36950.	2595.7
1541	725.00	14.235	36950.	2595.7
1538	725.00	14.235	36950.	2595.7
1542	725.00	14.235	36950.	2595.7
1345	725.00	14.207	36950.	2600.8
1350	725.00	14.207	36950.	2600.8
1348	725.00	14.207	36950.	2600.8
1349	725.00	14.207	36950.	2600.8
1346	725.00	14.207	36950.	2600.8
1347	725.00	14.207	36950.	2600.8
1326	725.00	14.188	36950.	2604.3
1321	725.00	14.188	36950.	2604.3
1325	725.00	14.188	36950.	2604.3
1324	725.00	14.188	36950.	2604.3
1323	725.00	14.188	36950.	2604.3
1322	725.00	14.188	36950.	2604.3
1465	725.00	14.185	36950.	2604.8
1469	725.00	14.185	36950.	2604.8
1466	725.00	14.185	36950.	2604.8
1467	725.00	14.185	36950.	2604.8
1468	725.00	14.185	36950.	2604.8
1470	725.00	14.185	36950.	2604.8
1273	725.00	-14.071	36950.	2626.0

Table 3.AA.46 (continued)

1274	725.00	-14.071	36950.	2626.0
1277	725.00	-14.071	36950.	2626.0
1278	725.00	-14.071	36950.	2626.0
1393	725.00	-13.962	36950.	2646.5
1396	725.00	-13.962	36950.	2646.5
1397	725.00	-13.962	36950.	2646.5
1394	725.00	-13.962	36950.	2646.5
918	725.00	11.536	36950.	3202.9
913	725.00	11.536	36950.	3202.9
916	725.00	11.536	36950.	3202.9
915	725.00	11.536	36950.	3202.9
937	725.00	11.519	36950.	3207.8
942	725.00	11.519	36950.	3207.8
940	725.00	11.519	36950.	3207.8
939	725.00	11.519	36950.	3207.8
869	725.00	11.088	36950.	3332.4
866	725.00	11.088	36950.	3332.4
868	725.00	11.088	36950.	3332.4
865	725.00	11.088	36950.	3332.4
892	725.00	11.059	36950.	3341.1
893	725.00	11.059	36950.	3341.1
891	725.00	11.059	36950.	3341.1
889	725.00	11.059	36950.	3341.1
961	725.00	11.006	36950.	3357.2
963	725.00	11.006	36950.	3357.2
962	725.00	11.006	36950.	3357.2
966	725.00	11.006	36950.	3357.2
985	725.00	11.000	36950.	3359.1
986	725.00	11.000	36950.	3359.1
989	725.00	11.000	36950.	3359.1
990	725.00	11.000	36950.	3359.1
150	725.00	-7.3269	36950.	5043.1
146	725.00	-7.3269	36950.	5043.1
149	725.00	-7.3269	36950.	5043.1
145	725.00	-7.3269	36950.	5043.1

Table 3.AA.46 (continued)

77	725.00	-7.2751	36950.	5078.9
75	725.00	-7.2751	36950.	5078.9
74	725.00	-7.2751	36950.	5078.9
76	725.00	-7.2751	36950.	5078.9
78	725.00	-7.2751	36950.	5078.9
73	725.00	-7.2751	36950.	5078.9
1369	725.00	6.1233	36950.	6034.3
1370	725.00	6.1233	36950.	6034.3
1371	725.00	6.1233	36950.	6034.3
1372	725.00	6.1233	36950.	6034.3
1373	725.00	6.1233	36950.	6034.3
1374	725.00	6.1233	36950.	6034.3
1298	725.00	6.0670	36950.	6090.3
1301	725.00	6.0670	36950.	6090.3
1300	725.00	6.0670	36950.	6090.3
1299	725.00	6.0670	36950.	6090.3
1297	725.00	6.0670	36950.	6090.3
1302	725.00	6.0670	36950.	6090.3
79	725.00	6.0220	36950.	6135.9
80	725.00	6.0220	36950.	6135.9
83	725.00	6.0220	36950.	6135.9
81	725.00	6.0220	36950.	6135.9
82	725.00	6.0220	36950.	6135.9
84	725.00	6.0220	36950.	6135.9
801	725.00	5.9936	36950.	6164.9
803	725.00	5.9936	36950.	6164.9
800	725.00	5.9936	36950.	6164.9
802	725.00	5.9936	36950.	6164.9
799	725.00	5.9936	36950.	6164.9
804	725.00	5.9936	36950.	6164.9
152	725.00	5.9696	36950.	6189.6
153	725.00	5.9696	36950.	6189.6
154	725.00	5.9696	36950.	6189.6
155	725.00	5.9696	36950.	6189.6
156	725.00	5.9696	36950.	6189.6
151	725.00	5.9696	36950.	6189.6
583	725.00	5.8818	36950.	6282.1
586	725.00	5.8818	36950.	6282.1
585	725.00	5.8818	36950.	6282.1
587	725.00	5.8818	36950.	6282.1
584	725.00	5.8818	36950.	6282.1
588	725.00	5.8818	36950.	6282.1
841	725.00	5.2994	36950.	6972.5
845	725.00	5.2994	36950.	6972.5
844	725.00	5.2994	36950.	6972.5
843	725.00	5.2994	36950.	6972.5
842	725.00	5.2994	36950.	6972.5
846	725.00	5.2994	36950.	6972.5
49	725.00	5.2908	36950.	6983.8
52	725.00	5.2908	36950.	6983.8
50	725.00	5.2908	36950.	6983.8
53	725.00	5.2908	36950.	6983.8
51	725.00	5.2908	36950.	6983.8

Table 3.AA.46 (continued)

54	725.00	5.2908	36950.	6983.8
173	725.00	5.1884	36950.	7121.7
171	725.00	5.1884	36950.	7121.7
172	725.00	5.1884	36950.	7121.7
169	725.00	5.1884	36950.	7121.7
170	725.00	5.1884	36950.	7121.7
174	725.00	5.1884	36950.	7121.7
1014	725.00	5.1704	36950.	7146.4
1011	725.00	5.1704	36950.	7146.4
1010	725.00	5.1704	36950.	7146.4
1012	725.00	5.1704	36950.	7146.4
1013	725.00	5.1704	36950.	7146.4
1009	725.00	5.1704	36950.	7146.4
337	725.00	3.6963	36950.	9996.5
339	725.00	3.6963	36950.	9996.5
338	725.00	3.6963	36950.	9996.5
340	725.00	3.6963	36950.	9996.5
341	725.00	3.6963	36950.	9996.5
342	725.00	3.6963	36950.	9996.5
220	725.00	3.6529	36950.	10115.
221	725.00	3.6529	36950.	10115.
219	725.00	3.6529	36950.	10115.
218	725.00	3.6529	36950.	10115.
222	725.00	3.6529	36950.	10115.
217	725.00	3.6529	36950.	10115.
265	725.00	-2.2148	36950.	16683.
266	725.00	-2.2148	36950.	16683.
267	725.00	-2.2148	36950.	16683.
268	725.00	-2.2148	36950.	16683.
269	725.00	-2.2148	36950.	16683.
270	725.00	-2.2148	36950.	16683.
289	725.00	-2.2063	36950.	16747.
290	725.00	-2.2063	36950.	16747.
291	725.00	-2.2063	36950.	16747.
292	725.00	-2.2063	36950.	16747.
293	725.00	-2.2063	36950.	16747.
294	725.00	-2.2063	36950.	16747.
313	725.00	1.7441	36950.	21185.
314	725.00	1.7441	36950.	21185.
315	725.00	1.7441	36950.	21185.
316	725.00	1.7441	36950.	21185.
317	725.00	1.7441	36950.	21185.
318	725.00	1.7441	36950.	21185.
241	725.00	1.7191	36950.	21494.
242	725.00	1.7191	36950.	21494.
243	725.00	1.7191	36950.	21494.
244	725.00	1.7191	36950.	21494.
245	725.00	1.7191	36950.	21494.
246	725.00	1.7191	36950.	21494.

Table 3.AA.47

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Fuel Basket
SUBTITLE 2 =
Load Combination: F3.b (See Table 3.1.3)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	CURRENT PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1033	725.00	20940.	55450.	2.6480
822	725.00	20925.	55450.	2.6500
793	725.00	20893.	55450.	2.6540
582	725.00	20876.	55450.	2.6562
1062	725.00	20094.	55450.	2.7595
1225	725.00	20081.	55450.	2.7613
1254	725.00	19505.	55450.	2.8428
1417	725.00	19494.	55450.	2.8445
1590	725.00	19375.	55450.	2.8619
1609	725.00	19373.	55450.	2.8622
198	725.00	19069.	55450.	2.9079
361	725.00	19056.	55450.	2.9098
390	725.00	18493.	55450.	2.9984
553	725.00	18477.	55450.	3.0010
1627	725.00	18414.	55450.	3.0113
1597	725.00	18412.	55450.	3.0117
1034	725.00	18300.	55450.	3.0300
821	725.00	18286.	55450.	3.0324
794	725.00	18275.	55450.	3.0342
581	725.00	18259.	55450.	3.0368
1628	725.00	18183.	55450.	3.0496
1598	725.00	18181.	55450.	3.0499
1446	725.00	17950.	55450.	3.0891
1561	725.00	17949.	55450.	3.0892
1369	725.00	17813.	55450.	3.1128
1302	725.00	17812.	55450.	3.1130
1061	725.00	17530.	55450.	3.1631
1226	725.00	17518.	55450.	3.1653
1177	725.00	17494.	55450.	3.1697
1110	725.00	17492.	55450.	3.1700
894	725.00	17363.	55450.	3.1936
961	725.00	17363.	55450.	3.1936
654	725.00	17316.	55450.	3.2022
721	725.00	17315.	55450.	3.2024
313	725.00	17289.	55450.	3.2072
505	725.00	17289.	55450.	3.2073
438	725.00	17289.	55450.	3.2073
246	725.00	17288.	55450.	3.2075
606	725.00	17125.	55450.	3.2380

Table 3.AA.47 (continued)

769	725.00	17107.	55450.	3.2414
846	725.00	17097.	55450.	3.2433
1253	725.00	16933.	55450.	3.2747
1418	725.00	16921.	55450.	3.2769
54	725.00	16819.	55450.	3.2968
1589	725.00	16813.	55450.	3.2981
145	725.00	16609.	55450.	3.3385
78	725.00	16608.	55450.	3.3387
362	725.00	16524.	55450.	3.3556
6	725.00	16446.	55450.	3.3715
1273	725.00	16331.	55450.	3.3955
1398	725.00	16326.	55450.	3.3964
1599	725.00	16050.	55450.	3.4549
389	725.00	16049.	55450.	3.4550
1518	725.00	16007.	55450.	3.4642
1489	725.00	16005.	55450.	3.4645
1537	725.00	15836.	55450.	3.5014
97	725.00	15710.	55450.	3.5297
1579	725.00	15584.	55450.	3.5581
1453	725.00	15584.	55450.	3.5581
342	725.00	15534.	55450.	3.5696
985	725.00	15489.	55450.	3.5799
630	725.00	15472.	55450.	3.5839
745	725.00	15471.	55450.	3.5840
1301	725.00	15422.	55450.	3.5956
1445	725.00	15417.	55450.	3.5968
1454	725.00	15394.	55450.	3.6020
1580	725.00	15394.	55450.	3.6020
414	725.00	15369.	55450.	3.6079
457	725.00	15298.	55450.	3.6247
265	725.00	15237.	55450.	3.6391
294	725.00	15236.	55450.	3.6395
673	725.00	15229.	55450.	3.6411
1129	725.00	15224.	55450.	3.6423
1201	725.00	15209.	55450.	3.6458
1086	725.00	15206.	55450.	3.6465

Table 3.AA.47 (continued)

913	725.00	15186.	55450.	3.6514
942	725.00	15186.	55450.	3.6514
1178	725.00	15128.	55450.	3.6654
1109	725.00	15126.	55450.	3.6658
1321	725.00	15120.	55450.	3.6674
1350	725.00	15118.	55450.	3.6677
1345	725.00	15113.	55450.	3.6691
1326	725.00	15112.	55450.	3.6693
1153	725.00	15106.	55450.	3.6708
1134	725.00	15104.	55450.	3.6712
937	725.00	15026.	55450.	3.6903
918	725.00	15026.	55450.	3.6903
1081	725.00	15019.	55450.	3.6921
1206	725.00	15014.	55450.	3.6932
678	725.00	15003.	55450.	3.6960
893	725.00	15002.	55450.	3.6962
962	725.00	15002.	55450.	3.6962
697	725.00	15002.	55450.	3.6963
337	725.00	14995.	55450.	3.6979
222	725.00	14993.	55450.	3.6985
481	725.00	14992.	55450.	3.6986
462	725.00	14992.	55450.	3.6986
653	725.00	14958.	55450.	3.7069
722	725.00	14957.	55450.	3.7072
506	725.00	14934.	55450.	3.7130
437	725.00	14934.	55450.	3.7130
314	725.00	14930.	55450.	3.7141
245	725.00	14928.	55450.	3.7145
289	725.00	14899.	55450.	3.7216
270	725.00	14897.	55450.	3.7221
1393	725.00	14859.	55450.	3.7318
1278	725.00	14857.	55450.	3.7322
605	725.00	14799.	55450.	3.7468
770	725.00	14783.	55450.	3.7510
845	725.00	14781.	55450.	3.7515
1494	725.00	14771.	55450.	3.7541
1513	725.00	14769.	55450.	3.7545
1010	725.00	14765.	55450.	3.7555
409	725.00	14707.	55450.	3.7704
534	725.00	14704.	55450.	3.7712
1542	725.00	14695.	55450.	3.7733
1465	725.00	14695.	55450.	3.7733
121	725.00	14665.	55450.	3.7810
102	725.00	14664.	55450.	3.7813
170	725.00	14437.	55450.	3.8409
53	725.00	14436.	55450.	3.8412
625	725.00	14391.	55450.	3.8532
750	725.00	14389.	55450.	3.8538
146	725.00	14286.	55450.	3.8815
77	725.00	14284.	55450.	3.8818
865	725.00	14279.	55450.	3.8835
990	725.00	14275.	55450.	3.8844
1014	725.00	14113.	55450.	3.9291

5	725.00	14095.	55450.	3.9342
26	725.00	14093.	55450.	3.9345
1274	725.00	14054.	55450.	3.9455
1600	725.00	13919.	55450.	3.9839
1630	725.00	13919.	55450.	3.9839
601	725.00	13752.	55450.	4.0320
1517	725.00	13736.	55450.	4.0368
1632	725.00	13656.	55450.	4.0603
1602	725.00	13654.	55450.	4.0611
1581	725.00	13638.	55450.	4.0658
1469	725.00	13569.	55450.	4.0865
98	725.00	13444.	55450.	4.1245
125	725.00	13443.	55450.	4.1248
1601	725.00	13431.	55450.	4.1286
73	725.00	13295.	55450.	4.1707
218	725.00	13286.	55450.	4.1737
341	725.00	13282.	55450.	4.1750
869	725.00	13219.	55450.	4.1949
629	725.00	13205.	55450.	4.1991
530	725.00	13114.	55450.	4.2282
413	725.00	13113.	55450.	4.2285
485	725.00	13051.	55450.	4.2487
266	725.00	12990.	55450.	4.2687
701	725.00	12985.	55450.	4.2702
674	725.00	12984.	55450.	4.2705
1157	725.00	12980.	55450.	4.2718
1202	725.00	12965.	55450.	4.2768
914	725.00	12943.	55450.	4.2841
941	725.00	12943.	55450.	4.2842
1349	725.00	12880.	55450.	4.3053
1346	725.00	12874.	55450.	4.3070
1154	725.00	12870.	55450.	4.3084
1133	725.00	12868.	55450.	4.3091
917	725.00	12791.	55450.	4.3350
1082	725.00	12785.	55450.	4.3372

Table 3.AA.47 (continued)

510	725.00	12775.	55450.	4.3404
433	725.00	12775.	55450.	4.3405
338	725.00	12770.	55450.	4.3422
677	725.00	12770.	55450.	4.3423
698	725.00	12769.	55450.	4.3426
221	725.00	12768.	55450.	4.3429
482	725.00	12761.	55450.	4.3452
461	725.00	12761.	55450.	4.3452
726	725.00	12686.	55450.	4.3708
649	725.00	12685.	55450.	4.3713
290	725.00	12669.	55450.	4.3767
269	725.00	12667.	55450.	4.3773
1394	725.00	12658.	55450.	4.3807
1277	725.00	12656.	55450.	4.3812
966	725.00	12607.	55450.	4.3983
889	725.00	12607.	55450.	4.3983
241	725.00	12584.	55450.	4.4064
318	725.00	12582.	55450.	4.4070
1493	725.00	12564.	55450.	4.4136
1514	725.00	12562.	55450.	4.4141
1105	725.00	12553.	55450.	4.4173
1182	725.00	12551.	55450.	4.4179
1541	725.00	12486.	55450.	4.4410
1466	725.00	12486.	55450.	4.4410
410	725.00	12485.	55450.	4.4413
533	725.00	12482.	55450.	4.4424
122	725.00	12453.	55450.	4.4526
101	725.00	12452.	55450.	4.4530
1459	725.00	12418.	55450.	4.4652
1555	725.00	12418.	55450.	4.4654
1531	725.00	12374.	55450.	4.4812
1483	725.00	12374.	55450.	4.4813
1460	725.00	12281.	55450.	4.5151
1556	725.00	12281.	55450.	4.5153
1532	725.00	12279.	55450.	4.5159
1484	725.00	12278.	55450.	4.5161
626	725.00	12180.	55450.	4.5527
749	725.00	12178.	55450.	4.5534
866	725.00	12071.	55450.	4.5937
989	725.00	12067.	55450.	4.5950
30	725.00	12039.	55450.	4.6059
1	725.00	12038.	55450.	4.6064
1603	725.00	12032.	55450.	4.6085
1604	725.00	12028.	55450.	4.6100
1605	725.00	11991.	55450.	4.6241
1606	725.00	11955.	55450.	4.6384
1013	725.00	11950.	55450.	4.6401
842	725.00	11933.	55450.	4.6469
1607	725.00	11919.	55450.	4.6521
1297	725.00	11892.	55450.	4.6627
1374	725.00	11892.	55450.	4.6630
1456	725.00	11885.	55450.	4.6654
1608	725.00	11884.	55450.	4.6659

Table 3.AA.47 (continued)

1488	725.00	11782.	55450.	4.7063
1536	725.00	11781.	55450.	4.7066
1411	725.00	11708.	55450.	4.7362
1487	725.00	11695.	55450.	4.7415
773	725.00	11619.	55450.	4.7723
602	725.00	11600.	55450.	4.7800
1412	725.00	11522.	55450.	4.8124
1435	725.00	11476.	55450.	4.8318
1533	725.00	11399.	55450.	4.8643
1485	725.00	11399.	55450.	4.8645
174	725.00	11173.	55450.	4.9628
1436	725.00	11160.	55450.	4.9685
74	725.00	11141.	55450.	4.9769
149	725.00	11141.	55450.	4.9773
1560	725.00	11015.	55450.	5.0342
1461	725.00	11014.	55450.	5.0346
1486	725.00	10887.	55450.	5.0931
1534	725.00	10887.	55450.	5.0934
1559	725.00	10885.	55450.	5.0940
1272	725.00	10752.	55450.	5.1570
1507	725.00	10746.	55450.	5.1601
1508	725.00	10742.	55450.	5.1620
1510	725.00	10670.	55450.	5.1968
509	725.00	10652.	55450.	5.2054
1511	725.00	10634.	55450.	5.2144
1440	725.00	10610.	55450.	5.2262
1512	725.00	10598.	55450.	5.2321
1271	725.00	10575.	55450.	5.2436
725	725.00	10567.	55450.	5.2477
650	725.00	10565.	55450.	5.2483
385	725.00	10503.	55450.	5.2796
965	725.00	10491.	55450.	5.2857
242	725.00	10466.	55450.	5.2981
317	725.00	10464.	55450.	5.2990
1181	725.00	10439.	55450.	5.3116

Table 3.AA.47 (continued)

1439	725.00	10302.	55450.	5.3824
1265	725.00	10293.	55450.	5.3870
1444	725.00	10256.	55450.	5.4066
1443	725.00	10256.	55450.	5.4066
1564	725.00	10256.	55450.	5.4068
1563	725.00	10256.	55450.	5.4068
1363	725.00	10182.	55450.	5.4457
1315	725.00	10179.	55450.	5.4472
1457	725.00	10131.	55450.	5.4733
1583	725.00	10127.	55450.	5.4757
1364	725.00	10120.	55450.	5.4795
1316	725.00	10117.	55450.	5.4810
1368	725.00	10036.	55450.	5.5249
1320	725.00	10034.	55450.	5.5264
1367	725.00	9981.3	55450.	5.5554
1319	725.00	9978.7	55450.	5.5568
29	725.00	9913.4	55450.	5.5934
2	725.00	9912.0	55450.	5.5942
1584	725.00	9846.9	55450.	5.6312
1458	725.00	9843.8	55450.	5.6330
1269	725.00	9814.0	55450.	5.6501
1413	725.00	9811.2	55450.	5.6517
1298	725.00	9805.6	55450.	5.6549
1373	725.00	9804.9	55450.	5.6553
1558	725.00	9746.6	55450.	5.6892
1462	725.00	9746.4	55450.	5.6893
1365	725.00	9538.8	55450.	5.8131
1317	725.00	9537.4	55450.	5.8140
1420	725.00	9526.4	55450.	5.8207
1419	725.00	9526.4	55450.	5.8207
1252	725.00	9524.9	55450.	5.8216
1251	725.00	9524.9	55450.	5.8216
1366	725.00	9472.6	55450.	5.8537
1318	725.00	9471.3	55450.	5.8545
1339	725.00	9446.6	55450.	5.8698
1340	725.00	9442.6	55450.	5.8723
1588	725.00	9407.6	55450.	5.8942
1587	725.00	9407.6	55450.	5.8942
1612	725.00	9407.3	55450.	5.8943
1611	725.00	9407.3	55450.	5.8943
1341	725.00	9405.9	55450.	5.8952
1342	725.00	9369.3	55450.	5.9183
819	725.00	9365.9	55450.	5.9204
820	725.00	9365.9	55450.	5.9204
1035	725.00	9363.3	55450.	5.9221
1036	725.00	9363.3	55450.	5.9221
1343	725.00	9333.8	55450.	5.9408
1344	725.00	9298.5	55450.	5.9634
364	725.00	9089.0	55450.	6.1008
363	725.00	9089.0	55450.	6.1008
195	725.00	9088.6	55450.	6.1010
196	725.00	9088.6	55450.	6.1010
50	725.00	9083.1	55450.	6.1048

Table 3.AA.47 (continued)

173	725.00	9079.5	55450.	6.1072
1392	725.00	9019.7	55450.	6.1477
1296	725.00	9016.4	55450.	6.1499
579	725.00	8990.4	55450.	6.1677
580	725.00	8990.4	55450.	6.1677
795	725.00	8989.4	55450.	6.1684
796	725.00	8989.4	55450.	6.1684
1391	725.00	8966.6	55450.	6.1841
1295	725.00	8963.5	55450.	6.1862
1270	725.00	8934.2	55450.	6.2065
1387	725.00	8933.5	55450.	6.2070
1414	725.00	8931.3	55450.	6.2085
1291	725.00	8929.9	55450.	6.2095
1388	725.00	8872.7	55450.	6.2495
1292	725.00	8869.2	55450.	6.2520
1171	725.00	8823.7	55450.	6.2842
1123	725.00	8822.5	55450.	6.2850
1227	725.00	8765.3	55450.	6.3261
1228	725.00	8765.3	55450.	6.3261
1060	725.00	8764.8	55450.	6.3264
1059	725.00	8764.8	55450.	6.3264
1172	725.00	8762.8	55450.	6.3279
1124	725.00	8761.7	55450.	6.3287
1176	725.00	8652.1	55450.	6.4089
1128	725.00	8650.3	55450.	6.4102
1175	725.00	8599.0	55450.	6.4484
1127	725.00	8597.3	55450.	6.4497
557	725.00	8486.8	55450.	6.5337
1390	725.00	8476.7	55450.	6.5415
1294	725.00	8475.2	55450.	6.5427
386	725.00	8469.2	55450.	6.5472
172	725.00	8381.9	55450.	6.6154
171	725.00	8381.9	55450.	6.6154
52	725.00	8380.9	55450.	6.6162
51	725.00	8380.9	55450.	6.6162
1075	725.00	8314.1	55450.	6.6694
1389	725.00	8310.7	55450.	6.6721
1293	725.00	8308.8	55450.	6.6736
1219	725.00	8308.0	55450.	6.6743
1437	725.00	8245.0	55450.	6.7253
1263	725.00	8238.5	55450.	6.7306
1076	725.00	8220.9	55450.	6.7450
1220	725.00	8215.0	55450.	6.7498
1173	725.00	8200.2	55450.	6.7620
1125	725.00	8199.8	55450.	6.7623
4	725.00	8162.0	55450.	6.7937
3	725.00	8162.0	55450.	6.7937
28	725.00	8161.9	55450.	6.7938
27	725.00	8161.9	55450.	6.7938
799	725.00	8147.1	55450.	6.8061
1147	725.00	8146.5	55450.	6.8066
1148	725.00	8142.5	55450.	6.8099
588	725.00	8132.0	55450.	6.8188

Table 3.AA.47 (continued)

1174	725.00	8108.5	55450.	6.8385
1195	725.00	8107.7	55450.	6.8392
1126	725.00	8107.5	55450.	6.8394
1149	725.00	8106.2	55450.	6.8404
1099	725.00	8106.2	55450.	6.8405
1150	725.00	8070.2	55450.	6.8710
1151	725.00	8034.5	55450.	6.9015
1037	725.00	8032.0	55450.	6.9036
1196	725.00	8030.0	55450.	6.9053
818	725.00	8028.7	55450.	6.9065
1100	725.00	8028.6	55450.	6.9066
388	725.00	8018.1	55450.	6.9156
387	725.00	8018.1	55450.	6.9156
556	725.00	8017.2	55450.	6.9164
555	725.00	8017.2	55450.	6.9164
1152	725.00	7998.8	55450.	6.9323
835	725.00	7985.3	55450.	6.9440
1027	725.00	7984.4	55450.	6.9448
1200	725.00	7958.9	55450.	6.9670
1104	725.00	7956.7	55450.	6.9689
1442	725.00	7947.5	55450.	6.9770
1565	725.00	7946.6	55450.	6.9778
1199	725.00	7889.1	55450.	7.0287
1103	725.00	7887.0	55450.	7.0306
1080	725.00	7796.0	55450.	7.1126
1224	725.00	7790.1	55450.	7.1180
836	725.00	7734.7	55450.	7.1690
1028	725.00	7733.9	55450.	7.1698
1079	725.00	7710.6	55450.	7.1914
1223	725.00	7705.0	55450.	7.1967
366	725.00	7635.1	55450.	7.2625
193	725.00	7623.4	55450.	7.2737
800	725.00	7590.3	55450.	7.3054
1250	725.00	7577.6	55450.	7.3176
587	725.00	7575.8	55450.	7.3194
1421	725.00	7574.0	55450.	7.3211
1299	725.00	7528.3	55450.	7.3656
1300	725.00	7528.3	55450.	7.3656
1371	725.00	7528.2	55450.	7.3656
1372	725.00	7528.2	55450.	7.3656
840	725.00	7513.0	55450.	7.3805
1032	725.00	7512.6	55450.	7.3809
987	725.00	7508.3	55450.	7.3852
988	725.00	7508.3	55450.	7.3852
867	725.00	7507.2	55450.	7.3863
868	725.00	7507.2	55450.	7.3863
748	725.00	7499.0	55450.	7.3943
747	725.00	7499.0	55450.	7.3943
628	725.00	7497.8	55450.	7.3955
627	725.00	7497.8	55450.	7.3955
1107	725.00	7466.0	55450.	7.4270
1108	725.00	7466.0	55450.	7.4270
1179	725.00	7466.0	55450.	7.4270

Table 3.AA.47 (continued)

1180	725.00	7466.0	55450.	7.4270
436	725.00	7463.5	55450.	7.4295
508	725.00	7463.5	55450.	7.4295
507	725.00	7463.5	55450.	7.4295
531	725.00	7455.0	55450.	7.4380
532	725.00	7455.0	55450.	7.4380
1264	725.00	7454.0	55450.	7.4389
411	725.00	7453.7	55450.	7.4393
907	725.00	7450.1	55450.	7.4429
955	725.00	7448.6	55450.	7.4444
1230	725.00	7440.7	55450.	7.4523
316	725.00	7436.2	55450.	7.4568
244	725.00	7436.2	55450.	7.4568
243	725.00	7436.2	55450.	7.4568
75	725.00	7431.3	55450.	7.4617
147	725.00	7431.3	55450.	7.4617
1057	725.00	7428.4	55450.	7.4646
652	725.00	7426.2	55450.	7.4668
723	725.00	7426.1	55450.	7.4669
724	725.00	7426.1	55450.	7.4669
892	725.00	7405.7	55450.	7.4875
964	725.00	7405.6	55450.	7.4876
908	725.00	7391.2	55450.	7.5022
956	725.00	7389.7	55450.	7.5037
1204	725.00	7368.6	55450.	7.5252
1083	725.00	7367.5	55450.	7.5263
1586	725.00	7362.7	55450.	7.5312
1613	725.00	7361.5	55450.	7.5324
1221	725.00	7356.8	55450.	7.5373
484	725.00	7351.7	55450.	7.5424
459	725.00	7351.7	55450.	7.5425
460	725.00	7351.7	55450.	7.5425
1155	725.00	7323.6	55450.	7.5714
1132	725.00	7323.6	55450.	7.5714
1197	725.00	7313.0	55450.	7.5824
1101	725.00	7312.4	55450.	7.5830

Table 3.AA.47 (continued)

699	725.00	7309.6	55450.	7.5859
700	725.00	7309.6	55450.	7.5859
676	725.00	7309.6	55450.	7.5859
675	725.00	7309.6	55450.	7.5859
267	725.00	7305.4	55450.	7.5902
268	725.00	7305.4	55450.	7.5902
291	725.00	7305.4	55450.	7.5903
292	725.00	7305.4	55450.	7.5903
915	725.00	7285.6	55450.	7.6109
916	725.00	7285.6	55450.	7.6109
940	725.00	7285.6	55450.	7.6109
939	725.00	7285.6	55450.	7.6109
912	725.00	7283.9	55450.	7.6127
960	725.00	7282.8	55450.	7.6138
1348	725.00	7281.2	55450.	7.6155
1347	725.00	7281.2	55450.	7.6155
1324	725.00	7281.1	55450.	7.6156
1323	725.00	7281.1	55450.	7.6156
839	725.00	7270.2	55450.	7.6271
1031	725.00	7269.8	55450.	7.6274
1198	725.00	7244.1	55450.	7.6545
1102	725.00	7242.8	55450.	7.6559
99	725.00	7233.3	55450.	7.6660
100	725.00	7233.3	55450.	7.6660
124	725.00	7233.3	55450.	7.6660
123	725.00	7233.3	55450.	7.6660
911	725.00	7232.8	55450.	7.6665
959	725.00	7231.7	55450.	7.6676
204	725.00	7161.1	55450.	7.7432
367	725.00	7150.0	55450.	7.7553
1539	725.00	7131.1	55450.	7.7758
1540	725.00	7131.1	55450.	7.7758
1467	725.00	7130.7	55450.	7.7763
1468	725.00	7130.7	55450.	7.7763
1491	725.00	7113.2	55450.	7.7953
1492	725.00	7113.2	55450.	7.7953
1516	725.00	7113.2	55450.	7.7954
1515	725.00	7113.2	55450.	7.7954
339	725.00	7111.3	55450.	7.7975
340	725.00	7111.3	55450.	7.7975
220	725.00	7110.2	55450.	7.7986
219	725.00	7110.2	55450.	7.7986
604	725.00	6985.1	55450.	7.9383
603	725.00	6985.1	55450.	7.9383
771	725.00	6984.0	55450.	7.9395
772	725.00	6984.0	55450.	7.9395
84	725.00	6924.6	55450.	8.0077
151	725.00	6923.9	55450.	8.0085
1078	725.00	6922.0	55450.	8.0107
1222	725.00	6918.7	55450.	8.0145
931	725.00	6848.0	55450.	8.0972
909	725.00	6846.9	55450.	8.0985
957	725.00	6846.1	55450.	8.0995

932	725.00	6844.1	55450.	8.1019
979	725.00	6840.2	55450.	8.1065
933	725.00	6807.8	55450.	8.1451
1396	725.00	6803.8	55450.	8.1499
1276	725.00	6802.7	55450.	8.1511
844	725.00	6783.6	55450.	8.1741
843	725.00	6783.6	55450.	8.1741
1012	725.00	6782.4	55450.	8.1756
1614	725.00	6779.9	55450.	8.1786
934	725.00	6771.5	55450.	8.1888
194	725.00	6770.7	55450.	8.1897
884	725.00	6763.6	55450.	8.1983
980	725.00	6762.5	55450.	8.1996
958	725.00	6760.2	55450.	8.2025
1058	725.00	6736.2	55450.	8.2316
1229	725.00	6730.8	55450.	8.2383
936	725.00	6699.9	55450.	8.2763
984	725.00	6669.5	55450.	8.3139
203	725.00	6667.1	55450.	8.3169
887	725.00	6600.4	55450.	8.4010
983	725.00	6599.7	55450.	8.4019
1249	725.00	6496.9	55450.	8.5348
1566	725.00	6466.3	55450.	8.5752
83	725.00	6434.4	55450.	8.6178
152	725.00	6433.7	55450.	8.6187
1003	725.00	6339.8	55450.	8.7463
860	725.00	6278.9	55450.	8.8311
864	725.00	6235.1	55450.	8.8932
1008	725.00	6226.4	55450.	8.9057
1007	725.00	6164.5	55450.	8.9950
577	725.00	6159.6	55450.	9.0021
829	725.00	6072.5	55450.	9.1313
1051	725.00	6062.0	55450.	9.1472
715	725.00	6060.8	55450.	9.1490
1248	725.00	6055.4	55450.	9.1571

Table 3.AA.47 (continued)

1074	725.00	6055.3	55450.	9.1573
1073	725.00	6055.0	55450.	9.1577
1246	725.00	6054.5	55450.	9.1585
1245	725.00	6053.7	55450.	9.1597
1244	725.00	6052.9	55450.	9.1609
1072	725.00	6052.8	55450.	9.1611
1243	725.00	6052.1	55450.	9.1621
1071	725.00	6050.6	55450.	9.1644
1070	725.00	6048.3	55450.	9.1678
885	725.00	6046.3	55450.	9.1709
1069	725.00	6046.1	55450.	9.1712
981	725.00	6045.7	55450.	9.1718
668	725.00	6005.8	55450.	9.2328
716	725.00	6004.8	55450.	9.2343
886	725.00	5955.1	55450.	9.3113
982	725.00	5954.9	55450.	9.3116
672	725.00	5897.2	55450.	9.4028
720	725.00	5895.7	55450.	9.4052
671	725.00	5848.9	55450.	9.4804
719	725.00	5847.5	55450.	9.4827
830	725.00	5808.8	55450.	9.5459
1052	725.00	5798.7	55450.	9.5624
861	725.00	5632.2	55450.	9.8452
1005	725.00	5627.3	55450.	9.8538
862	725.00	5598.1	55450.	9.9051
1006	725.00	5593.7	55450.	9.9130
691	725.00	5550.0	55450.	9.9909
692	725.00	5546.1	55450.	9.9980
693	725.00	5509.8	55450.	10.064
669	725.00	5487.9	55450.	10.104
717	725.00	5487.5	55450.	10.105
834	725.00	5482.2	55450.	10.115
643	725.00	5476.3	55450.	10.125
739	725.00	5475.6	55450.	10.127
1056	725.00	5474.4	55450.	10.129
694	725.00	5473.7	55450.	10.130
695	725.00	5438.0	55450.	10.197
1029	725.00	5419.8	55450.	10.231
837	725.00	5419.7	55450.	10.231
644	725.00	5403.1	55450.	10.263
670	725.00	5403.1	55450.	10.263
740	725.00	5402.4	55450.	10.264
718	725.00	5402.3	55450.	10.264
696	725.00	5402.3	55450.	10.264
817	725.00	5344.0	55450.	10.376
1038	725.00	5333.7	55450.	10.396
576	725.00	5332.7	55450.	10.398
402	725.00	5328.0	55450.	10.407
648	725.00	5305.6	55450.	10.451
744	725.00	5304.5	55450.	10.453
647	725.00	5240.2	55450.	10.582
743	725.00	5239.1	55450.	10.584
833	725.00	5226.3	55450.	10.610

Table 3.AA.47 (continued)

619	725.00	5195.1	55450.	10.674
763	725.00	5186.6	55450.	10.691
768	725.00	5166.3	55450.	10.733
575	725.00	5142.7	55450.	10.782
620	725.00	5114.3	55450.	10.842
764	725.00	5106.3	55450.	10.859
767	725.00	5093.8	55450.	10.886
1030	725.00	5027.8	55450.	11.029
408	725.00	4948.9	55450.	11.204
552	725.00	4943.6	55450.	11.217
551	725.00	4822.0	55450.	11.499
645	725.00	4727.1	55450.	11.730
499	725.00	4691.7	55450.	11.819
451	725.00	4690.0	55450.	11.823
452	725.00	4636.4	55450.	11.960
646	725.00	4636.2	55450.	11.960
403	725.00	4629.3	55450.	11.978
547	725.00	4624.2	55450.	11.991
456	725.00	4507.3	55450.	12.302
404	725.00	4499.6	55450.	12.323
503	725.00	4462.7	55450.	12.425
455	725.00	4461.6	55450.	12.428
766	725.00	4424.0	55450.	12.534
621	725.00	4368.7	55450.	12.693
475	725.00	4253.6	55450.	13.036
476	725.00	4249.6	55450.	13.048
478	725.00	4176.9	55450.	13.275
501	725.00	4142.9	55450.	13.384
479	725.00	4141.0	55450.	13.391
480	725.00	4105.3	55450.	13.507
427	725.00	4097.4	55450.	13.533
595	725.00	4083.8	55450.	13.578
502	725.00	4039.5	55450.	13.727
454	725.00	4039.1	55450.	13.728
428	725.00	4031.5	55450.	13.754

Table 3.AA.47 (continued)

596	725.00	4002.0	55450.	13.855
788	725.00	4001.3	55450.	13.858
528	725.00	3847.3	55450.	14.413
432	725.00	3845.9	55450.	14.418
527	725.00	3789.1	55450.	14.634
431	725.00	3787.9	55450.	14.639
571	725.00	3730.6	55450.	14.863
397	725.00	3729.0	55450.	14.870
406	725.00	3702.0	55450.	14.978
550	725.00	3699.3	55450.	14.989
572	725.00	3532.8	55450.	15.696
398	725.00	3531.3	55450.	15.702
312	725.00	3516.8	55450.	15.767
264	725.00	3513.9	55450.	15.780
307	725.00	3476.8	55450.	15.948
259	725.00	3474.2	55450.	15.961
311	725.00	3459.1	55450.	16.030
263	725.00	3456.5	55450.	16.042
525	725.00	3424.6	55450.	16.192
429	725.00	3423.5	55450.	16.197
308	725.00	3411.4	55450.	16.254
260	725.00	3408.9	55450.	16.266
574	725.00	3387.5	55450.	16.369
400	725.00	3384.3	55450.	16.385
831	725.00	3373.3	55450.	16.438
1053	725.00	3367.4	55450.	16.467
405	725.00	3302.6	55450.	16.790
549	725.00	3300.0	55450.	16.803
526	725.00	3252.3	55450.	17.049
430	725.00	3251.8	55450.	17.052
789	725.00	3247.0	55450.	17.077
597	725.00	3247.0	55450.	17.078
801	725.00	3185.1	55450.	17.409
586	725.00	3176.5	55450.	17.456
96	725.00	3142.2	55450.	17.647
144	725.00	3141.7	55450.	17.650
379	725.00	3127.0	55450.	17.733
205	725.00	3119.6	55450.	17.775
43	725.00	3079.7	55450.	18.005
95	725.00	3078.8	55450.	18.011
143	725.00	3078.3	55450.	18.013
13	725.00	3077.0	55450.	18.021
380	725.00	3061.7	55450.	18.111
206	725.00	3054.8	55450.	18.152
44	725.00	2961.4	55450.	18.724
14	725.00	2958.9	55450.	18.740
283	725.00	2957.7	55450.	18.748
284	725.00	2953.7	55450.	18.773
310	725.00	2927.0	55450.	18.944
262	725.00	2925.6	55450.	18.953
285	725.00	2917.0	55450.	19.009
336	725.00	2888.8	55450.	19.195
240	725.00	2885.5	55450.	19.217

Table 3.AA.47 (continued)

286	725.00	2880.5	55450.	19.250
832	725.00	2862.8	55450.	19.369
1054	725.00	2859.6	55450.	19.391
287	725.00	2845.1	55450.	19.489
202	725.00	2842.5	55450.	19.507
369	725.00	2836.6	55450.	19.548
331	725.00	2827.9	55450.	19.608
235	725.00	2825.0	55450.	19.628
335	725.00	2822.8	55450.	19.643
239	725.00	2819.8	55450.	19.665
288	725.00	2809.8	55450.	19.735
309	725.00	2807.2	55450.	19.752
261	725.00	2806.0	55450.	19.761
332	725.00	2754.2	55450.	20.133
236	725.00	2751.4	55450.	20.153
187	725.00	2746.0	55450.	20.193
61	725.00	2741.5	55450.	20.226
188	725.00	2646.1	55450.	20.955
82	725.00	2644.1	55450.	20.972
153	725.00	2643.5	55450.	20.976
62	725.00	2641.7	55450.	20.990
72	725.00	2558.6	55450.	21.672
168	725.00	2557.7	55450.	21.680
94	725.00	2493.0	55450.	22.242
790	725.00	2492.8	55450.	22.244
142	725.00	2492.6	55450.	22.246
598	725.00	2491.9	55450.	22.252
381	725.00	2459.0	55450.	22.550
207	725.00	2455.8	55450.	22.579
71	725.00	2446.6	55450.	22.664
167	725.00	2445.7	55450.	22.673
360	725.00	2398.9	55450.	23.115
216	725.00	2395.9	55450.	23.143
359	725.00	2384.9	55450.	23.251
215	725.00	2382.1	55450.	23.278
67	725.00	2322.1	55450.	23.879
163	725.00	2321.3	55450.	23.888
12	725.00	2256.4	55450.	24.574
358	725.00	2255.5	55450.	24.584
31	725.00	2254.8	55450.	24.592
214	725.00	2254.3	55450.	24.598
334	725.00	2213.9	55450.	25.046
238	725.00	2212.3	55450.	25.065
68	725.00	2202.3	55450.	25.178
164	725.00	2201.5	55450.	25.188
213	725.00	2126.5	55450.	26.076
357	725.00	2126.2	55450.	26.079
600	725.00	2090.3	55450.	26.527
792	725.00	2089.0	55450.	26.544
333	725.00	2073.2	55450.	26.746
237	725.00	2071.9	55450.	26.763
804	725.00	2061.6	55450.	26.897
803	725.00	2061.6	55450.	26.897

Table 3.AA.47 (continued)

583	725.00	2052.1	55450.	27.021
584	725.00	2052.1	55450.	27.021
816	725.00	2031.3	55450.	27.297
594	725.00	2021.5	55450.	27.430
599	725.00	2016.3	55450.	27.500
815	725.00	2015.3	55450.	27.515
791	725.00	2015.1	55450.	27.517
593	725.00	2005.8	55450.	27.644
212	725.00	1998.6	55450.	27.744
356	725.00	1996.9	55450.	27.768
11	725.00	1944.3	55450.	28.519
32	725.00	1942.8	55450.	28.542
93	725.00	1907.3	55450.	29.072
141	725.00	1906.9	55450.	29.079
211	725.00	1870.8	55450.	29.639
45	725.00	1869.2	55450.	29.666
15	725.00	1867.8	55450.	29.687
355	725.00	1867.6	55450.	29.690
814	725.00	1866.8	55450.	29.703
592	725.00	1861.5	55450.	29.787
208	725.00	1856.9	55450.	29.861
382	725.00	1856.3	55450.	29.872
60	725.00	1825.2	55450.	30.379
175	725.00	1824.2	55450.	30.397
189	725.00	1723.3	55450.	32.176
63	725.00	1720.4	55450.	32.230
813	725.00	1718.3	55450.	32.269
591	725.00	1717.2	55450.	32.291
573	725.00	1705.6	55450.	32.510
399	725.00	1705.5	55450.	32.512
48	725.00	1669.6	55450.	33.212
115	725.00	1669.3	55450.	33.218
18	725.00	1667.3	55450.	33.256
116	725.00	1665.4	55450.	33.296
802	725.00	1646.9	55450.	33.670
585	725.00	1643.3	55450.	33.743
117	725.00	1629.4	55450.	34.032
36	725.00	1626.3	55450.	34.096
7	725.00	1624.0	55450.	34.143
118	725.00	1593.4	55450.	34.801
590	725.00	1572.9	55450.	35.254
812	725.00	1569.9	55450.	35.321
47	725.00	1559.1	55450.	35.565
119	725.00	1557.3	55450.	35.605
17	725.00	1557.0	55450.	35.613
120	725.00	1521.3	55450.	36.448
59	725.00	1514.3	55450.	36.617
176	725.00	1513.3	55450.	36.641
58	725.00	1471.9	55450.	37.672
57	725.00	1471.9	55450.	37.672
177	725.00	1471.6	55450.	37.679
178	725.00	1471.6	55450.	37.679
589	725.00	1428.5	55450.	38.816

Table 3.AA.47 (continued)

811	725.00	1421.4	55450.	39.010
139	725.00	1420.4	55450.	39.039
70	725.00	1411.8	55450.	39.275
166	725.00	1411.3	55450.	39.289
92	725.00	1348.7	55450.	41.114
35	725.00	1346.6	55450.	41.179
192	725.00	1289.2	55450.	43.011
66	725.00	1287.4	55450.	43.071
383	725.00	1253.5	55450.	44.234
180	725.00	1241.0	55450.	44.681
191	725.00	1197.1	55450.	46.321
65	725.00	1195.4	55450.	46.385
165	725.00	1095.1	55450.	50.633
10	725.00	1073.1	55450.	51.672
33	725.00	1072.9	55450.	51.684
34	725.00	1072.9	55450.	51.684
56	725.00	958.38	55450.	57.858
155	725.00	958.32	55450.	57.862
80	725.00	958.08	55450.	57.876
81	725.00	958.08	55450.	57.876
201	725.00	846.72	55450.	65.488
370	725.00	843.31	55450.	65.753
190	725.00	800.59	55450.	69.262
64	725.00	799.18	55450.	69.383
16	725.00	776.70	55450.	71.391
156	725.00	757.98	55450.	73.155
199	725.00	680.83	55450.	81.445
372	725.00	672.67	55450.	82.433
384	725.00	650.82	55450.	85.200
19	725.00	313.39	55450.	176.94
21	725.00	272.62	55450.	203.40
22	725.00	235.87	55450.	235.09
24	725.00	165.41	55450.	335.23

Table 3.AA.48

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Enclosure Vessel
SUBTITLE 2 =
Load Combination: E3.b (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1770	450.00	-7686.8	43450.	5.6526
1769	450.00	-7686.0	43450.	5.6532
1773	450.00	-7682.4	43450.	5.6558
1766	450.00	-7677.5	43450.	5.6594
1771	450.00	-7665.8	43450.	5.6680
1772	450.00	-7665.3	43450.	5.6684
1768	450.00	-7663.6	43450.	5.6697
1767	450.00	-7661.8	43450.	5.6710
1774	450.00	-6513.0	43450.	6.6713
1765	450.00	-6508.5	43450.	6.6759
1778	450.00	-6496.1	43450.	6.6886
1775	450.00	-6489.5	43450.	6.6955
1761	450.00	-6488.7	43450.	6.6962
1776	450.00	-6488.0	43450.	6.6969
1764	450.00	-6484.4	43450.	6.7007
1777	450.00	-6484.3	43450.	6.7008
1763	450.00	-6482.2	43450.	6.7030
1867	450.00	6481.5	43450.	6.7037
1762	450.00	-6477.6	43450.	6.7077
1823	450.00	6466.5	43450.	6.7193
1868	450.00	6407.4	43450.	6.7813
1822	450.00	6391.7	43450.	6.7979
1860	450.00	6312.6	43450.	6.8831
1859	450.00	6305.5	43450.	6.8908
1829	450.00	6301.0	43450.	6.8958
1830	450.00	6294.1	43450.	6.9033
1845	450.00	6176.0	43450.	7.0353
1846	450.00	6175.4	43450.	7.0360
1844	450.00	6175.2	43450.	7.0362
1847	450.00	6173.4	43450.	7.0382
1843	450.00	6173.2	43450.	7.0385
1848	450.00	6170.2	43450.	7.0419
1842	450.00	6169.9	43450.	7.0422
1849	450.00	6165.6	43450.	7.0472
1841	450.00	6165.3	43450.	7.0475
1850	450.00	6161.5	43450.	7.0519
1840	450.00	6161.2	43450.	7.0522
1851	450.00	6156.8	43450.	7.0572
1839	450.00	6156.4	43450.	7.0577

Table 3.AA.48 (continued)

1852	450.00	6151.5	43450.	7.0633
1838	450.00	6151.0	43450.	7.0639
1853	450.00	6145.5	43450.	7.0702
1837	450.00	6144.9	43450.	7.0709
1836	450.00	6138.1	43450.	7.0787
1854	450.00	6088.5	43450.	7.1364
1835	450.00	6077.7	43450.	7.1491
1855	450.00	6076.3	43450.	7.1508
1856	450.00	6073.6	43450.	7.1539
1834	450.00	6064.2	43450.	7.1650
1833	450.00	6059.8	43450.	7.1702
1857	450.00	6057.5	43450.	7.1729
1832	450.00	6042.5	43450.	7.1908
1858	450.00	6040.7	43450.	7.1928
1831	450.00	6024.4	43450.	7.2123
1861	450.00	5903.0	43450.	7.3607
1828	450.00	5886.2	43450.	7.3817
1862	450.00	5885.6	43450.	7.3824
1863	450.00	5868.3	43450.	7.4042
1827	450.00	5864.6	43450.	7.4089
1864	450.00	5851.1	43450.	7.4260
1826	450.00	5843.1	43450.	7.4361
1865	450.00	5834.0	43450.	7.4477
1825	450.00	5821.9	43450.	7.4633
1866	450.00	5817.2	43450.	7.4693
1824	450.00	5800.9	43450.	7.4902
1869	450.00	5646.0	43450.	7.6957
1821	450.00	5621.6	43450.	7.7291
1870	450.00	5621.0	43450.	7.7299
1871	450.00	5597.4	43450.	7.7625
1820	450.00	5595.8	43450.	7.7647
1872	450.00	5582.4	43450.	7.7834
1819	450.00	5571.5	43450.	7.7986
1873	450.00	5559.8	43450.	7.8150
1818	450.00	5556.9	43450.	7.8191
1817	450.00	5533.8	43450.	7.8518
1874	450.00	5446.4	43450.	7.9778
1875	450.00	5432.9	43450.	7.9976
1816	450.00	5426.5	43450.	8.0070
1876	450.00	5419.6	43450.	8.0172
1815	450.00	5412.8	43450.	8.0273
1877	450.00	5404.0	43450.	8.0403
1814	450.00	5399.7	43450.	8.0467
1878	450.00	5384.8	43450.	8.0690
1813	450.00	5384.0	43450.	8.0703
1812	450.00	5364.6	43450.	8.0994
1879	450.00	5364.5	43450.	8.0996
1880	450.00	5336.6	43450.	8.1419
1811	450.00	5336.4	43450.	8.1423
1881	450.00	5308.8	43450.	8.1846
1810	450.00	5308.3	43450.	8.1853
1882	450.00	5280.7	43450.	8.2280
1809	450.00	5280.3	43450.	8.2287

Table 3.AA.48 (continued)

1883	450.00	5252.7	43450.	8.2720
1808	450.00	5252.3	43450.	8.2726
1884	450.00	5224.6	43450.	8.3165
1807	450.00	5224.2	43450.	8.3171
1885	450.00	5196.6	43450.	8.3613
1806	450.00	5196.2	43450.	8.3619
1886	450.00	5168.7	43450.	8.4064
1805	450.00	5168.3	43450.	8.4071
1737	450.00	5141.3	43450.	8.4511
1804	450.00	5140.6	43450.	8.4523
1747	450.00	5139.8	43450.	8.4537
1793	450.00	5132.5	43450.	8.4656
1738	450.00	5121.6	43450.	8.4837
1803	450.00	5121.1	43450.	8.4845
1802	450.00	5101.5	43450.	8.5171
1739	450.00	5101.3	43450.	8.5174
1801	450.00	5081.4	43450.	8.5508
1779	450.00	-4786.4	43450.	9.0778
1780	450.00	-4783.3	43450.	9.0837
1760	450.00	-4775.6	43450.	9.0984
1759	450.00	-4771.2	43450.	9.1067
1740	450.00	4475.4	43450.	9.7086
1741	450.00	4456.9	43450.	9.7489
1800	450.00	4455.5	43450.	9.7519
1799	450.00	4437.2	43450.	9.7921
1781	450.00	-4430.4	43450.	9.8071
1758	450.00	-4416.6	43450.	9.8378
1782	450.00	-4414.1	43450.	9.8435
1783	450.00	-4413.0	43450.	9.8460
1757	450.00	-4399.0	43450.	9.8773
1756	450.00	-4396.6	43450.	9.8825
1742	450.00	4387.0	43450.	9.9042
1743	450.00	4361.9	43450.	9.9614
1798	450.00	4361.3	43450.	9.9627
1797	450.00	4336.6	43450.	10.019
1744	450.00	4303.0	43450.	10.098
1745	450.00	4278.1	43450.	10.156
1796	450.00	4277.4	43450.	10.158
1746	450.00	4259.3	43450.	10.201
1748	450.00	4257.8	43450.	10.205
1795	450.00	4253.2	43450.	10.216
1792	450.00	4250.5	43450.	10.222
1794	450.00	4234.8	43450.	10.260
1754	450.00	4125.8	43450.	10.531
1785	450.00	4112.8	43450.	10.565
1755	450.00	2508.1	43450.	17.324
1784	450.00	2495.4	43450.	17.412
1749	450.00	1962.4	43450.	22.141
1750	450.00	1953.5	43450.	22.243
1791	450.00	1945.2	43450.	22.337
1790	450.00	1940.7	43450.	22.389
1751	450.00	1932.8	43450.	22.480
1789	450.00	1924.2	43450.	22.580

Table 3.AA.48 (continued)

1752	450.00	1914.2	43450.	22.698
1788	450.00	1908.2	43450.	22.771
1787	450.00	1894.6	43450.	22.934
1786	450.00	1886.0	43450.	23.039

Table 3.AA.49

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Enclosure Vessel
SUBTITLE 2 =
Load Combination: E3.b (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1770	450.00	21173.	65200.	3.0794
1769	450.00	21173.	65200.	3.0794
1773	450.00	20480.	65200.	3.1836
1766	450.00	20480.	65200.	3.1836
1774	450.00	19315.	65200.	3.3756
1765	450.00	19315.	65200.	3.3756
1778	450.00	17527.	65200.	3.7200
1761	450.00	17526.	65200.	3.7201
1822	450.00	15475.	65200.	4.2133
1868	450.00	15469.	65200.	4.2148
1821	450.00	15377.	65200.	4.2401
1820	450.00	15376.	65200.	4.2403
1869	450.00	15372.	65200.	4.2414
1870	450.00	15372.	65200.	4.2416
1819	450.00	15174.	65200.	4.2967
1871	450.00	15171.	65200.	4.2978
1771	450.00	14094.	65200.	4.6262
1768	450.00	14094.	65200.	4.6262
1823	450.00	13549.	65200.	4.8121
1867	450.00	13543.	65200.	4.8144
1818	450.00	12975.	65200.	5.0250
1872	450.00	12973.	65200.	5.0259
1824	450.00	12868.	65200.	5.0666
1866	450.00	12862.	65200.	5.0691
1772	450.00	12860.	65200.	5.0698
1767	450.00	12860.	65200.	5.0699
1865	450.00	12585.	65200.	5.1808
1816	450.00	12584.	65200.	5.1812
1874	450.00	12583.	65200.	5.1816
1825	450.00	12499.	65200.	5.2165
1817	450.00	12257.	65200.	5.3194
1873	450.00	12255.	65200.	5.3201
1864	450.00	12003.	65200.	5.4321
1775	450.00	11946.	65200.	5.4580
1764	450.00	11946.	65200.	5.4581
1756	450.00	11706.	65200.	5.5699
1783	450.00	11696.	65200.	5.5746
1826	450.00	11695.	65200.	5.5751
1853	450.00	11633.	65200.	5.6045

Table 3.AA.49 (continued)

1836	450.00	11628.	65200.	5.6073
1852	450.00	11413.	65200.	5.7126
1837	450.00	11408.	65200.	5.7153
1851	450.00	11236.	65200.	5.8026
1838	450.00	11231.	65200.	5.8052
1863	450.00	11132.	65200.	5.8567
1850	450.00	11099.	65200.	5.8746
1839	450.00	11094.	65200.	5.8770
1849	450.00	10990.	65200.	5.9324
1840	450.00	10986.	65200.	5.9346
1780	450.00	10938.	65200.	5.9607
1759	450.00	10938.	65200.	5.9608
1848	450.00	10907.	65200.	5.9780
1841	450.00	10903.	65200.	5.9800
1847	450.00	10824.	65200.	6.0237
1842	450.00	10821.	65200.	6.0253
1846	450.00	10771.	65200.	6.0533
1843	450.00	10769.	65200.	6.0544
1845	450.00	10742.	65200.	6.0699
1844	450.00	10741.	65200.	6.0705
1854	450.00	10586.	65200.	6.1593
1835	450.00	10581.	65200.	6.1619
1827	450.00	10486.	65200.	6.2178
1776	450.00	10346.	65200.	6.3022
1763	450.00	10345.	65200.	6.3023
1875	450.00	10284.	65200.	6.3398
1815	450.00	10284.	65200.	6.3398
1792	450.00	10142.	65200.	6.4287
1856	450.00	10111.	65200.	6.4484
1833	450.00	10105.	65200.	6.4524
1862	450.00	9991.5	65200.	6.5256
1748	450.00	9945.0	65200.	6.5561
1747	450.00	9913.3	65200.	6.5770
1855	450.00	9889.3	65200.	6.5930
1834	450.00	9884.5	65200.	6.5962
1755	450.00	9805.7	65200.	6.6492
1784	450.00	9794.6	65200.	6.6567
1793	450.00	9725.0	65200.	6.7044
1779	450.00	9410.7	65200.	6.9283
1760	450.00	9410.5	65200.	6.9284
1777	450.00	9268.1	65200.	7.0349
1762	450.00	9268.0	65200.	7.0350
1857	450.00	9030.8	65200.	7.2198
1832	450.00	9024.3	65200.	7.2249
1746	450.00	9008.4	65200.	7.2377
1828	450.00	8901.8	65200.	7.3244
1794	450.00	8811.5	65200.	7.3994
1861	450.00	8596.5	65200.	7.5845
1785	450.00	8414.8	65200.	7.7482
1754	450.00	8364.6	65200.	7.7947
1858	450.00	8163.9	65200.	7.9863
1757	450.00	8162.6	65200.	7.9877
1782	450.00	8160.2	65200.	7.9900

Table 3.AA.49 (continued)

1831	450.00	8157.4	65200.	7.9927
1791	450.00	7853.0	65200.	8.3026
1859	450.00	7824.8	65200.	8.3325
1830	450.00	7818.5	65200.	8.3392
1749	450.00	7664.7	65200.	8.5065
1876	450.00	7379.6	65200.	8.8352
1814	450.00	7378.7	65200.	8.8363
1829	450.00	7364.1	65200.	8.8538
1860	450.00	7357.7	65200.	8.8615
1758	450.00	6953.2	65200.	9.3770
1781	450.00	6952.5	65200.	9.3779
1786	450.00	6176.2	65200.	10.557
1753	450.00	6124.4	65200.	10.646
1878	450.00	6123.1	65200.	10.648
1812	450.00	6123.0	65200.	10.648
1877	450.00	6122.3	65200.	10.650
1813	450.00	6122.2	65200.	10.650
1879	450.00	5975.8	65200.	10.911
1811	450.00	5975.7	65200.	10.911
1880	450.00	5852.2	65200.	11.141
1810	450.00	5852.1	65200.	11.141
1881	450.00	5837.5	65200.	11.169
1809	450.00	5837.4	65200.	11.169
1882	450.00	5818.8	65200.	11.205
1808	450.00	5818.7	65200.	11.205
1883	450.00	5793.5	65200.	11.254
1807	450.00	5793.5	65200.	11.254
1738	450.00	5791.4	65200.	11.258
1802	450.00	5791.3	65200.	11.258
1739	450.00	5791.1	65200.	11.259
1801	450.00	5791.0	65200.	11.259
1737	450.00	5774.9	65200.	11.290
1803	450.00	5774.8	65200.	11.290
1884	450.00	5768.3	65200.	11.303
1806	450.00	5768.3	65200.	11.303
1885	450.00	5739.4	65200.	11.360
1805	450.00	5739.4	65200.	11.360
1886	450.00	5699.4	65200.	11.440
1804	450.00	5699.3	65200.	11.440
1741	450.00	5461.2	65200.	11.939
1799	450.00	5460.4	65200.	11.941
1800	450.00	5160.7	65200.	12.634
1740	450.00	5160.5	65200.	12.634
1745	450.00	5021.8	65200.	12.983
1743	450.00	5003.5	65200.	13.031
1742	450.00	5002.8	65200.	13.033
1797	450.00	5000.4	65200.	13.039
1798	450.00	4999.6	65200.	13.041
1795	450.00	4960.8	65200.	13.143
1744	450.00	4669.2	65200.	13.964
1796	450.00	4595.3	65200.	14.189
1750	450.00	4297.6	65200.	15.171
1790	450.00	4033.3	65200.	16.165

Table 3.AA.49 (continued)

1789	450.00	3591.2	65200.	18.155
1751	450.00	3222.9	65200.	20.230
1787	450.00	2766.6	65200.	23.567
1788	450.00	2557.3	65200.	25.496
1752	450.00	2416.7	65200.	26.979

Table 3.AA.50

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E3.b (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1699	450.00	-6503.5	43450.	6.6810
1710	450.00	-6503.4	43450.	6.6811
1700	450.00	-6500.6	43450.	6.6840
1711	450.00	-6500.5	43450.	6.6841
1701	450.00	-6476.9	43450.	6.7084
1712	450.00	-6476.8	43450.	6.7085
1702	450.00	-6453.3	43450.	6.7330
1713	450.00	-6453.2	43450.	6.7331
1703	450.00	-6229.8	43450.	6.9745
1714	450.00	-6229.7	43450.	6.9746
1682	450.00	-3389.4	43450.	12.819
1649	450.00	-3389.4	43450.	12.819
1663	450.00	-3389.3	43450.	12.820
1674	450.00	-3389.3	43450.	12.820
1673	450.00	-3381.5	43450.	12.849
1662	450.00	-3381.5	43450.	12.849
1664	450.00	-3362.2	43450.	12.923
1675	450.00	-3362.2	43450.	12.923
1672	450.00	-3358.7	43450.	12.937
1661	450.00	-3358.7	43450.	12.937
1669	450.00	-3342.9	43450.	12.998
1658	450.00	-3342.8	43450.	12.998
1671	450.00	-3339.9	43450.	13.009
1660	450.00	-3339.8	43450.	13.010
1670	450.00	-3338.6	43450.	13.015
1659	450.00	-3338.5	43450.	13.015
1665	450.00	-3335.2	43450.	13.028
1676	450.00	-3335.2	43450.	13.028
1640	450.00	-3334.7	43450.	13.030
1695	450.00	-3334.7	43450.	13.030
1681	450.00	-3334.5	43450.	13.031
1648	450.00	-3334.5	43450.	13.031
1679	450.00	-3323.7	43450.	13.073
1680	450.00	-3323.7	43450.	13.073
1678	450.00	-3323.7	43450.	13.073
1677	450.00	-3323.7	43450.	13.073
1644	450.00	-3323.6	43450.	13.073
1645	450.00	-3323.6	43450.	13.073
1647	450.00	-3323.6	43450.	13.073

Table 3.AA.50 (continued)

1646	450.00	-3323.6	43450.	13.073
1668	450.00	-3319.2	43450.	13.090
1657	450.00	-3319.2	43450.	13.091
1696	450.00	-3307.1	43450.	13.138
1641	450.00	-3307.1	43450.	13.138
1667	450.00	-3295.5	43450.	13.184
1656	450.00	-3295.5	43450.	13.185
1697	450.00	-3294.5	43450.	13.189
1642	450.00	-3294.5	43450.	13.189
1698	450.00	-3281.9	43450.	13.239
1643	450.00	-3281.9	43450.	13.239
1666	450.00	-3271.9	43450.	13.280
1655	450.00	-3271.9	43450.	13.280
1704	450.00	-3156.0	43450.	13.768
1715	450.00	-3155.9	43450.	13.768
1709	450.00	-2968.9	43450.	14.635
1720	450.00	-2968.9	43450.	14.635
1708	450.00	-2966.3	43450.	14.648
1719	450.00	-2966.2	43450.	14.648
1707	450.00	-2939.2	43450.	14.783
1718	450.00	-2939.2	43450.	14.783
1706	450.00	-2649.5	43450.	16.399
1717	450.00	-2649.5	43450.	16.399
1705	450.00	-1525.0	43450.	28.492
1716	450.00	-1525.0	43450.	28.492
1637	450.00	-122.63	43450.	354.33
1692	450.00	-122.61	43450.	354.38
1635	450.00	-107.68	43450.	403.51
1634	450.00	-107.68	43450.	403.51
1636	450.00	-107.68	43450.	403.51
1633	450.00	-107.68	43450.	403.51
1688	450.00	-107.67	43450.	403.55
1690	450.00	-107.67	43450.	403.55
1691	450.00	-107.67	43450.	403.55
1689	450.00	-107.67	43450.	403.55
1654	450.00	-106.44	43450.	408.22
1687	450.00	-106.42	43450.	408.30
1653	450.00	-105.21	43450.	412.98
1686	450.00	-105.19	43450.	413.06
1652	450.00	-92.600	43450.	469.22
1685	450.00	-92.580	43450.	469.32
1638	450.00	-87.842	43450.	494.64
1693	450.00	-87.823	43450.	494.74
1651	450.00	-78.372	43450.	554.41
1684	450.00	-78.355	43450.	554.53
1650	450.00	-49.966	43450.	869.60
1683	450.00	-49.959	43450.	869.71
1639	450.00	-8.7325	43450.	4975.7
1694	450.00	-8.7212	43450.	4982.1

Table 3.AA.51

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E3.b (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1704	450.00	55803.	65200.	1.1684
1715	450.00	55802.	65200.	1.1684
1705	450.00	54174.	65200.	1.2035
1716	450.00	54173.	65200.	1.2036
1702	450.00	44349.	65200.	1.4702
1713	450.00	44348.	65200.	1.4702
1703	450.00	44149.	65200.	1.4768
1714	450.00	44148.	65200.	1.4768
1699	450.00	37115.	65200.	1.7567
1710	450.00	37115.	65200.	1.7567
1700	450.00	34421.	65200.	1.8942
1711	450.00	34420.	65200.	1.8942
1706	450.00	32697.	65200.	1.9941
1717	450.00	32696.	65200.	1.9941
1709	450.00	25792.	65200.	2.5279
1720	450.00	25791.	65200.	2.5280
1708	450.00	23838.	65200.	2.7351
1719	450.00	23838.	65200.	2.7351
1701	450.00	22426.	65200.	2.9073
1712	450.00	22426.	65200.	2.9074
1707	450.00	21195.	65200.	3.0763
1718	450.00	21194.	65200.	3.0763
1633	450.00	6576.3	65200.	9.9144
1688	450.00	6575.3	65200.	9.9159
1634	450.00	6103.7	65200.	10.682
1689	450.00	6102.8	65200.	10.684
1643	450.00	3382.3	65200.	19.277
1698	450.00	3381.0	65200.	19.284
1642	450.00	3335.3	65200.	19.548
1697	450.00	3334.1	65200.	19.556
1655	450.00	3029.8	65200.	21.520
1666	450.00	3026.3	65200.	21.544
1682	450.00	2907.0	65200.	22.429
1649	450.00	2906.7	65200.	22.431
1695	450.00	2883.3	65200.	22.613
1640	450.00	2883.0	65200.	22.615
1656	450.00	2870.7	65200.	22.712
1667	450.00	2867.4	65200.	22.738
1673	450.00	2653.4	65200.	24.573

Table 3.AA.51 (continued)

1662	450.00	2652.3	65200.	24.582
1635	450.00	2635.0	65200.	24.744
1679	450.00	2634.8	65200.	24.746
1690	450.00	2634.4	65200.	24.749
1646	450.00	2634.4	65200.	24.750
1637	450.00	2593.5	65200.	25.139
1692	450.00	2593.0	65200.	25.144
1638	450.00	2562.6	65200.	25.443
1693	450.00	2562.1	65200.	25.448
1683	450.00	2501.0	65200.	26.070
1650	450.00	2500.8	65200.	26.072
1636	450.00	2459.4	65200.	26.510
1691	450.00	2459.1	65200.	26.514
1681	450.00	2423.7	65200.	26.901
1648	450.00	2423.3	65200.	26.905
1680	450.00	2416.7	65200.	26.979
1647	450.00	2416.3	65200.	26.983
1669	450.00	2373.7	65200.	27.468
1658	450.00	2372.7	65200.	27.480
1685	450.00	2354.6	65200.	27.691
1652	450.00	2354.3	65200.	27.694
1684	450.00	2353.0	65200.	27.710
1651	450.00	2352.7	65200.	27.713
1665	450.00	2314.4	65200.	28.172
1676	450.00	2310.7	65200.	28.216
1641	450.00	2310.2	65200.	28.223
1696	450.00	2309.6	65200.	28.229
1672	450.00	2282.4	65200.	28.566
1661	450.00	2281.0	65200.	28.584
1664	450.00	2237.6	65200.	29.139
1675	450.00	2234.1	65200.	29.184
1653	450.00	2228.2	65200.	29.262
1686	450.00	2227.2	65200.	29.275
1674	450.00	2137.4	65200.	30.505
1663	450.00	2135.9	65200.	30.526
1670	450.00	2069.5	65200.	31.505
1659	450.00	2068.0	65200.	31.527
1671	450.00	2067.0	65200.	31.543
1660	450.00	2065.5	65200.	31.566
1654	450.00	2012.3	65200.	32.400
1687	450.00	2011.3	65200.	32.417
1677	450.00	1977.8	65200.	32.965
1644	450.00	1977.4	65200.	32.972
1694	450.00	1933.3	65200.	33.725
1639	450.00	1932.9	65200.	33.732
1678	450.00	1735.6	65200.	37.567
1645	450.00	1735.2	65200.	37.576
1668	450.00	1625.7	65200.	40.105
1657	450.00	1623.8	65200.	40.152

Table 3.AA.52

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Fuel Basket
SUBTITLE 2 =
Load Combination: F3.c (See Table 3.1.3)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	CURRENT PM	PREVIOUS ALLOW	PREVIOUS SF
1603	725.00	-8578.5	36950.	4.3073
798	725.00	-8578.5	36950.	4.3073
1604	725.00	-8575.7	36950.	4.3087
797	725.00	-8575.7	36950.	4.3087
1605	725.00	-8550.3	36950.	4.3215
796	725.00	-8550.2	36950.	4.3215
1606	725.00	-8524.8	36950.	4.3344
795	725.00	-8524.8	36950.	4.3344
1607	725.00	-8499.3	36950.	4.3474
794	725.00	-8499.3	36950.	4.3474
1608	725.00	-8473.9	36950.	4.3605
793	725.00	-8473.9	36950.	4.3605
1627	725.00	-8267.0	36950.	4.4696
1038	725.00	-8266.9	36950.	4.4696
1628	725.00	-8264.3	36950.	4.4711
1037	725.00	-8264.2	36950.	4.4711
1629	725.00	-8238.8	36950.	4.4849
1036	725.00	-8238.7	36950.	4.4849
1630	725.00	-8213.3	36950.	4.4988
1035	725.00	-8213.3	36950.	4.4988
804	725.00	-8205.3	36950.	4.5032
1597	725.00	-8205.2	36950.	4.5033
803	725.00	-8202.5	36950.	4.5047
1598	725.00	-8202.4	36950.	4.5048
1631	725.00	-8187.9	36950.	4.5128
1034	725.00	-8187.8	36950.	4.5128
802	725.00	-8177.0	36950.	4.5187
1599	725.00	-8177.0	36950.	4.5188
1632	725.00	-8162.4	36950.	4.5268
1033	725.00	-8162.3	36950.	4.5269
801	725.00	-8151.6	36950.	4.5329
1600	725.00	-8151.5	36950.	4.5329
800	725.00	-8126.1	36950.	4.5471
1601	725.00	-8126.0	36950.	4.5471
799	725.00	-8100.7	36950.	4.5614
1602	725.00	-8100.6	36950.	4.5614
1507	725.00	-7637.2	36950.	4.8381
774	725.00	-7637.2	36950.	4.8381
1508	725.00	-7634.5	36950.	4.8399

Table 3.AA.52 (continued)

773	725.00	-7634.5	36950.	4.8399
1509	725.00	-7609.0	36950.	4.8561
772	725.00	-7609.0	36950.	4.8561
1510	725.00	-7583.6	36950.	4.8724
771	725.00	-7583.5	36950.	4.8724
1511	725.00	-7558.1	36950.	4.8888
770	725.00	-7558.1	36950.	4.8888
1512	725.00	-7532.6	36950.	4.9053
769	725.00	-7532.6	36950.	4.9053
1531	725.00	-7391.5	36950.	4.9990
1014	725.00	-7391.5	36950.	4.9990
1532	725.00	-7388.8	36950.	5.0008
1013	725.00	-7388.7	36950.	5.0009
1533	725.00	-7363.3	36950.	5.0181
1012	725.00	-7363.3	36950.	5.0182
1534	725.00	-7337.9	36950.	5.0355
1011	725.00	-7337.8	36950.	5.0356
1535	725.00	-7312.4	36950.	5.0531
1010	725.00	-7312.3	36950.	5.0531
1230	725.00	-7288.1	36950.	5.0699
1555	725.00	-7287.6	36950.	5.0703
1536	725.00	-7286.9	36950.	5.0707
1009	725.00	-7286.9	36950.	5.0708
1229	725.00	-7285.3	36950.	5.0718
1556	725.00	-7284.8	36950.	5.0722
1228	725.00	-7259.9	36950.	5.0896
1557	725.00	-7259.4	36950.	5.0900
1227	725.00	-7234.4	36950.	5.1075
1558	725.00	-7233.9	36950.	5.1079
558	725.00	-7223.6	36950.	5.1152
1483	725.00	-7223.6	36950.	5.1152
557	725.00	-7220.9	36950.	5.1171
1484	725.00	-7220.8	36950.	5.1172
1226	725.00	-7208.9	36950.	5.1256
1559	725.00	-7208.4	36950.	5.1259
556	725.00	-7195.4	36950.	5.1352
1485	725.00	-7195.3	36950.	5.1353
1225	725.00	-7183.5	36950.	5.1437
1560	725.00	-7183.0	36950.	5.1441
555	725.00	-7170.0	36950.	5.1535
1486	725.00	-7169.9	36950.	5.1535
554	725.00	-7144.5	36950.	5.1718
1487	725.00	-7144.4	36950.	5.1719
553	725.00	-7119.0	36950.	5.1903
1488	725.00	-7118.9	36950.	5.1904
1339	725.00	-6717.2	36950.	5.5008
750	725.00	-6717.2	36950.	5.5008
1340	725.00	-6714.5	36950.	5.5030
749	725.00	-6714.5	36950.	5.5031
1341	725.00	-6689.0	36950.	5.5240
748	725.00	-6689.0	36950.	5.5240
1342	725.00	-6663.5	36950.	5.5451
747	725.00	-6663.5	36950.	5.5451

Table 3.AA.52 (continued)

1343	725.00	-6638.1	36950.	5.5664
746	725.00	-6638.1	36950.	5.5664
1344	725.00	-6612.6	36950.	5.5878
745	725.00	-6612.6	36950.	5.5878
1459	725.00	-6521.8	36950.	5.6656
366	725.00	-6520.7	36950.	5.6665
1460	725.00	-6519.0	36950.	5.6680
365	725.00	-6518.0	36950.	5.6689
1461	725.00	-6493.5	36950.	5.6903
364	725.00	-6492.5	36950.	5.6912
1462	725.00	-6468.1	36950.	5.7127
363	725.00	-6467.1	36950.	5.7136
1363	725.00	-6448.9	36950.	5.7296
990	725.00	-6448.9	36950.	5.7297
1364	725.00	-6446.2	36950.	5.7321
989	725.00	-6446.1	36950.	5.7321
1463	725.00	-6442.6	36950.	5.7352
362	725.00	-6441.6	36950.	5.7362
1453	725.00	-6436.6	36950.	5.7406
1454	725.00	-6433.8	36950.	5.7431
1365	725.00	-6420.7	36950.	5.7548
988	725.00	-6420.7	36950.	5.7549
372	725.00	-6417.2	36950.	5.7580
1464	725.00	-6417.2	36950.	5.7580
361	725.00	-6416.1	36950.	5.7589
371	725.00	-6414.4	36950.	5.7604
1455	725.00	-6408.4	36950.	5.7659
1366	725.00	-6395.2	36950.	5.7777
987	725.00	-6395.2	36950.	5.7778
370	725.00	-6389.0	36950.	5.7834
1456	725.00	-6382.9	36950.	5.7889
1367	725.00	-6369.8	36950.	5.8008
986	725.00	-6369.7	36950.	5.8009
369	725.00	-6363.5	36950.	5.8065
1457	725.00	-6357.4	36950.	5.8121
1368	725.00	-6344.3	36950.	5.8241
985	725.00	-6344.3	36950.	5.8241
368	725.00	-6338.1	36950.	5.8299
1458	725.00	-6332.0	36950.	5.8355
367	725.00	-6312.6	36950.	5.8534
534	725.00	-6280.3	36950.	5.8835
1315	725.00	-6280.2	36950.	5.8835
1206	725.00	-6280.2	36950.	5.8836
1387	725.00	-6279.7	36950.	5.8840
533	725.00	-6277.6	36950.	5.8861
1316	725.00	-6277.5	36950.	5.8861
1205	725.00	-6277.4	36950.	5.8862
1388	725.00	-6277.0	36950.	5.8866
532	725.00	-6252.1	36950.	5.9100
1317	725.00	-6252.0	36950.	5.9101
1204	725.00	-6251.9	36950.	5.9102
1389	725.00	-6251.5	36950.	5.9106
531	725.00	-6226.6	36950.	5.9342

Table 3.AA.52 (continued)

1318	725.00	-6226.5	36950.	5.9343
1203	725.00	-6226.5	36950.	5.9343
1390	725.00	-6226.0	36950.	5.9347
530	725.00	-6201.2	36950.	5.9586
1319	725.00	-6201.1	36950.	5.9586
1202	725.00	-6201.0	36950.	5.9587
1391	725.00	-6200.6	36950.	5.9591
529	725.00	-6175.7	36950.	5.9831
1320	725.00	-6175.6	36950.	5.9832
1201	725.00	-6175.5	36950.	5.9833
1392	725.00	-6175.1	36950.	5.9837
1147	725.00	-5795.1	36950.	6.3761
726	725.00	-5795.1	36950.	6.3761
1148	725.00	-5792.3	36950.	6.3791
725	725.00	-5792.3	36950.	6.3791
1149	725.00	-5766.9	36950.	6.4073
724	725.00	-5766.9	36950.	6.4073
1150	725.00	-5741.4	36950.	6.4357
723	725.00	-5741.4	36950.	6.4357
1151	725.00	-5716.0	36950.	6.4644
722	725.00	-5715.9	36950.	6.4644
1152	725.00	-5690.5	36950.	6.4933
721	725.00	-5690.5	36950.	6.4933
1291	725.00	-5610.0	36950.	6.5864
342	725.00	-5609.1	36950.	6.5876
1292	725.00	-5607.3	36950.	6.5897
341	725.00	-5606.3	36950.	6.5908
1293	725.00	-5581.8	36950.	6.6197
340	725.00	-5580.8	36950.	6.6209
1294	725.00	-5556.3	36950.	6.6501
339	725.00	-5555.4	36950.	6.6512
1295	725.00	-5530.9	36950.	6.6807
338	725.00	-5529.9	36950.	6.6818
1171	725.00	-5512.8	36950.	6.7026
966	725.00	-5512.7	36950.	6.7027
1172	725.00	-5510.0	36950.	6.7060
965	725.00	-5510.0	36950.	6.7060
1296	725.00	-5505.4	36950.	6.7116
337	725.00	-5504.4	36950.	6.7128
1173	725.00	-5484.5	36950.	6.7371
964	725.00	-5484.5	36950.	6.7372
1267	725.00	-5483.2	36950.	6.7388
1268	725.00	-5480.4	36950.	6.7422
174	725.00	-5463.7	36950.	6.7628
173	725.00	-5460.9	36950.	6.7663
1174	725.00	-5459.1	36950.	6.7685
963	725.00	-5459.0	36950.	6.7686
1269	725.00	-5455.0	36950.	6.7737
172	725.00	-5435.5	36950.	6.7979
1175	725.00	-5433.6	36950.	6.8003
962	725.00	-5433.6	36950.	6.8003
1270	725.00	-5429.5	36950.	6.8054
171	725.00	-5410.0	36950.	6.8299

Table 3.AA.52 (continued)

1176	725.00	-5408.2	36950.	6.8323
961	725.00	-5408.1	36950.	6.8323
1271	725.00	-5404.0	36950.	6.8375
170	725.00	-5384.5	36950.	6.8622
1272	725.00	-5378.6	36950.	6.8699
169	725.00	-5359.1	36950.	6.8948
510	725.00	-5330.1	36950.	6.9323
1123	725.00	-5330.0	36950.	6.9324
509	725.00	-5327.3	36950.	6.9359
1124	725.00	-5327.3	36950.	6.9360
508	725.00	-5301.9	36950.	6.9692
1125	725.00	-5301.8	36950.	6.9693
1182	725.00	-5282.7	36950.	6.9945
1195	725.00	-5282.3	36950.	6.9950
1181	725.00	-5279.9	36950.	6.9982
1196	725.00	-5279.6	36950.	6.9987
507	725.00	-5276.4	36950.	7.0029
1126	725.00	-5276.3	36950.	7.0030
1180	725.00	-5254.5	36950.	7.0321
1197	725.00	-5254.1	36950.	7.0326
506	725.00	-5251.0	36950.	7.0368
1127	725.00	-5250.9	36950.	7.0369
1179	725.00	-5229.0	36950.	7.0664
1198	725.00	-5228.6	36950.	7.0668
505	725.00	-5225.5	36950.	7.0711
1128	725.00	-5225.4	36950.	7.0712
1178	725.00	-5203.5	36950.	7.1009
1199	725.00	-5203.2	36950.	7.1014
1177	725.00	-5178.1	36950.	7.1358
1200	725.00	-5177.7	36950.	7.1363
1422	725.00	-4933.5	36950.	7.4896
1579	725.00	-4933.5	36950.	7.4896
1421	725.00	-4930.8	36950.	7.4937
1580	725.00	-4930.7	36950.	7.4938
1435	725.00	-4905.9	36950.	7.5317
1566	725.00	-4905.9	36950.	7.5318
1420	725.00	-4905.3	36950.	7.5326
1581	725.00	-4905.3	36950.	7.5327
1436	725.00	-4903.2	36950.	7.5359
1565	725.00	-4903.1	36950.	7.5360
1419	725.00	-4879.9	36950.	7.5719
1582	725.00	-4879.8	36950.	7.5720
1437	725.00	-4877.7	36950.	7.5753
1564	725.00	-4877.7	36950.	7.5753
931	725.00	-4874.3	36950.	7.5805
702	725.00	-4874.3	36950.	7.5805
932	725.00	-4871.6	36950.	7.5848
701	725.00	-4871.6	36950.	7.5848
1418	725.00	-4854.4	36950.	7.6117
1583	725.00	-4854.3	36950.	7.6117
1438	725.00	-4852.2	36950.	7.6150
1563	725.00	-4852.2	36950.	7.6151
933	725.00	-4846.1	36950.	7.6247

Table 3.AA.52 (continued)

700	725.00	-4846.1	36950.	7.6247
1417	725.00	-4828.9	36950.	7.6518
1584	725.00	-4828.9	36950.	7.6519
1439	725.00	-4826.8	36950.	7.6552
1562	725.00	-4826.7	36950.	7.6553
934	725.00	-4820.7	36950.	7.6649
699	725.00	-4820.6	36950.	7.6649
1440	725.00	-4801.3	36950.	7.6958
1561	725.00	-4801.3	36950.	7.6959
935	725.00	-4795.2	36950.	7.7056
698	725.00	-4795.2	36950.	7.7056
936	725.00	-4769.7	36950.	7.7468
697	725.00	-4769.7	36950.	7.7468
1099	725.00	-4716.6	36950.	7.8340
318	725.00	-4715.7	36950.	7.8355
1100	725.00	-4713.9	36950.	7.8386
317	725.00	-4713.0	36950.	7.8401
1101	725.00	-4688.4	36950.	7.8812
316	725.00	-4687.5	36950.	7.8827
1102	725.00	-4662.9	36950.	7.9242
315	725.00	-4662.0	36950.	7.9257
1103	725.00	-4637.5	36950.	7.9677
314	725.00	-4636.6	36950.	7.9692
1104	725.00	-4612.0	36950.	8.0117
313	725.00	-4611.1	36950.	8.0132
955	725.00	-4576.8	36950.	8.0733
942	725.00	-4576.8	36950.	8.0734
956	725.00	-4574.0	36950.	8.0782
941	725.00	-4574.0	36950.	8.0782
957	725.00	-4548.6	36950.	8.1234
940	725.00	-4548.6	36950.	8.1235
958	725.00	-4523.1	36950.	8.1691
939	725.00	-4523.1	36950.	8.1692
959	725.00	-4497.7	36950.	8.2154
938	725.00	-4497.6	36950.	8.2154
1075	725.00	-4485.0	36950.	8.2386
1076	725.00	-4482.2	36950.	8.2437
960	725.00	-4472.2	36950.	8.2622
937	725.00	-4472.2	36950.	8.2622
150	725.00	-4465.3	36950.	8.2749
149	725.00	-4462.6	36950.	8.2800
1077	725.00	-4456.8	36950.	8.2908
148	725.00	-4437.1	36950.	8.3275
1078	725.00	-4431.3	36950.	8.3384
147	725.00	-4411.6	36950.	8.3756
1079	725.00	-4405.8	36950.	8.3866
146	725.00	-4386.2	36950.	8.4242
486	725.00	-4382.2	36950.	8.4319
907	725.00	-4382.1	36950.	8.4320
1080	725.00	-4380.4	36950.	8.4354
485	725.00	-4379.4	36950.	8.4372
908	725.00	-4379.4	36950.	8.4373
145	725.00	-4360.7	36950.	8.4734

Table 3.AA.52 (continued)

484	725.00	-4354.0	36950.	8.4865
909	725.00	-4353.9	36950.	8.4867
483	725.00	-4328.5	36950.	8.5364
910	725.00	-4328.4	36950.	8.5366
482	725.00	-4303.0	36950.	8.5870
911	725.00	-4303.0	36950.	8.5871
1158	725.00	-4280.0	36950.	8.6331
979	725.00	-4279.8	36950.	8.6337
481	725.00	-4277.6	36950.	8.6381
912	725.00	-4277.5	36950.	8.6382
1157	725.00	-4277.3	36950.	8.6386
1243	725.00	-4277.0	36950.	8.6392
980	725.00	-4277.0	36950.	8.6392
1542	725.00	-4276.9	36950.	8.6394
1244	725.00	-4274.2	36950.	8.6448
1541	725.00	-4274.2	36950.	8.6450
1156	725.00	-4251.8	36950.	8.6904
981	725.00	-4251.5	36950.	8.6910
1245	725.00	-4248.8	36950.	8.6966
1540	725.00	-4248.7	36950.	8.6968
1155	725.00	-4226.4	36950.	8.7427
982	725.00	-4226.1	36950.	8.7434
1246	725.00	-4223.3	36950.	8.7490
1539	725.00	-4223.2	36950.	8.7492
1154	725.00	-4200.9	36950.	8.7957
983	725.00	-4200.6	36950.	8.7963
1247	725.00	-4197.9	36950.	8.8021
1538	725.00	-4197.8	36950.	8.8023
1153	725.00	-4175.4	36950.	8.8494
984	725.00	-4175.1	36950.	8.8500
1248	725.00	-4172.4	36950.	8.8558
1537	725.00	-4172.3	36950.	8.8560
1411	725.00	-4164.9	36950.	8.8717
1398	725.00	-4164.8	36950.	8.8721
1412	725.00	-4162.2	36950.	8.8776
1397	725.00	-4161.7	36950.	8.8786
1413	725.00	-4136.7	36950.	8.9323
1396	725.00	-4136.2	36950.	8.9332
1414	725.00	-4111.2	36950.	8.9876
1395	725.00	-4110.8	36950.	8.9885
1415	725.00	-4085.8	36950.	9.0436
1394	725.00	-4085.3	36950.	9.0446
1416	725.00	-4060.3	36950.	9.1003
1393	725.00	-4059.9	36950.	9.1013
691	725.00	-3954.7	36950.	9.3432
678	725.00	-3954.7	36950.	9.3432
692	725.00	-3952.0	36950.	9.3497
677	725.00	-3952.0	36950.	9.3498
693	725.00	-3926.5	36950.	9.4104
676	725.00	-3926.5	36950.	9.4104
694	725.00	-3901.1	36950.	9.4718
675	725.00	-3901.0	36950.	9.4718
695	725.00	-3875.6	36950.	9.5340

Table 3.AA.52 (continued)

674	725.00	-3875.6	36950.	9.5340
696	725.00	-3850.1	36950.	9.5971
673	725.00	-3850.1	36950.	9.5971
883	725.00	-3814.8	36950.	9.6860
294	725.00	-3814.0	36950.	9.6880
884	725.00	-3812.0	36950.	9.6931
293	725.00	-3811.2	36950.	9.6950
885	725.00	-3786.5	36950.	9.7582
292	725.00	-3785.8	36950.	9.7602
886	725.00	-3761.1	36950.	9.8243
291	725.00	-3760.3	36950.	9.8263
887	725.00	-3735.6	36950.	9.8913
290	725.00	-3734.8	36950.	9.8933
888	725.00	-3710.2	36950.	9.9591
289	725.00	-3709.4	36950.	9.9612
715	725.00	-3640.6	36950.	10.150
918	725.00	-3640.5	36950.	10.150
716	725.00	-3637.8	36950.	10.157
917	725.00	-3637.8	36950.	10.157
717	725.00	-3612.3	36950.	10.229
916	725.00	-3612.3	36950.	10.229
718	725.00	-3586.9	36950.	10.301
915	725.00	-3586.8	36950.	10.302
719	725.00	-3561.4	36950.	10.375
914	725.00	-3561.4	36950.	10.375
720	725.00	-3535.9	36950.	10.450
913	725.00	-3535.9	36950.	10.450
859	725.00	-3532.3	36950.	10.461
860	725.00	-3529.5	36950.	10.469
126	725.00	-3512.4	36950.	10.520
125	725.00	-3509.7	36950.	10.528
861	725.00	-3504.1	36950.	10.545
124	725.00	-3484.2	36950.	10.605
862	725.00	-3478.6	36950.	10.622
123	725.00	-3458.7	36950.	10.683
863	725.00	-3453.1	36950.	10.700
462	725.00	-3434.5	36950.	10.758
667	725.00	-3434.5	36950.	10.759
122	725.00	-3433.3	36950.	10.762
461	725.00	-3431.8	36950.	10.767
668	725.00	-3431.7	36950.	10.767
864	725.00	-3427.7	36950.	10.780
1219	725.00	-3419.5	36950.	10.806
1374	725.00	-3419.2	36950.	10.807
1220	725.00	-3416.8	36950.	10.814
1373	725.00	-3416.4	36950.	10.815
121	725.00	-3407.8	36950.	10.843
460	725.00	-3406.3	36950.	10.848
669	725.00	-3406.2	36950.	10.848
1221	725.00	-3391.3	36950.	10.895
1372	725.00	-3390.9	36950.	10.897
459	725.00	-3380.8	36950.	10.929
670	725.00	-3380.8	36950.	10.929

Table 3.AA.52 (continued)

1222	725.00	-3365.9	36950.	10.978
1371	725.00	-3365.5	36950.	10.979
458	725.00	-3355.4	36950.	11.012
671	725.00	-3355.3	36950.	11.012
1223	725.00	-3340.4	36950.	11.062
1370	725.00	-3340.0	36950.	11.063
457	725.00	-3329.9	36950.	11.096
672	725.00	-3329.9	36950.	11.097
1224	725.00	-3314.9	36950.	11.147
1369	725.00	-3314.6	36950.	11.148
1261	725.00	-3310.9	36950.	11.160
180	725.00	-3309.7	36950.	11.164
1262	725.00	-3308.1	36950.	11.170
179	725.00	-3306.9	36950.	11.173
1263	725.00	-3282.6	36950.	11.256
178	725.00	-3281.5	36950.	11.260
1134	725.00	-3280.0	36950.	11.265
739	725.00	-3279.7	36950.	11.266
1133	725.00	-3277.2	36950.	11.275
740	725.00	-3277.0	36950.	11.276
1264	725.00	-3257.2	36950.	11.344
177	725.00	-3256.0	36950.	11.348
1132	725.00	-3251.8	36950.	11.363
741	725.00	-3251.5	36950.	11.364
1265	725.00	-3231.7	36950.	11.434
176	725.00	-3230.6	36950.	11.438
1131	725.00	-3226.3	36950.	11.453
742	725.00	-3226.1	36950.	11.454
1266	725.00	-3206.2	36950.	11.524
175	725.00	-3205.1	36950.	11.529
1130	725.00	-3200.8	36950.	11.544
743	725.00	-3200.6	36950.	11.545
1129	725.00	-3175.4	36950.	11.636
744	725.00	-3175.1	36950.	11.637
1027	725.00	-3103.2	36950.	11.907
1518	725.00	-3103.2	36950.	11.907
1028	725.00	-3100.5	36950.	11.918
1517	725.00	-3100.4	36950.	11.918
1029	725.00	-3075.0	36950.	12.016
1516	725.00	-3075.0	36950.	12.016
1030	725.00	-3049.6	36950.	12.117
1515	725.00	-3049.5	36950.	12.117
475	725.00	-3036.4	36950.	12.169
654	725.00	-3036.4	36950.	12.169
476	725.00	-3033.6	36950.	12.180
653	725.00	-3033.6	36950.	12.180
1031	725.00	-3024.1	36950.	12.219
1514	725.00	-3024.1	36950.	12.219
477	725.00	-3008.2	36950.	12.283
652	725.00	-3008.2	36950.	12.283
1032	725.00	-2998.6	36950.	12.322
1513	725.00	-2998.6	36950.	12.322
478	725.00	-2982.7	36950.	12.388

Table 3.AA.52 (continued)

651	725.00	-2982.7	36950.	12.388
479	725.00	-2957.2	36950.	12.495
650	725.00	-2957.2	36950.	12.495
480	725.00	-2931.8	36950.	12.603
649	725.00	-2931.8	36950.	12.603
1069	725.00	-2917.4	36950.	12.665
156	725.00	-2916.4	36950.	12.670
1070	725.00	-2914.7	36950.	12.677
155	725.00	-2913.6	36950.	12.682
643	725.00	-2911.5	36950.	12.691
270	725.00	-2910.8	36950.	12.694
644	725.00	-2908.7	36950.	12.703
269	725.00	-2908.1	36950.	12.706
1071	725.00	-2889.2	36950.	12.789
154	725.00	-2888.1	36950.	12.794
645	725.00	-2883.2	36950.	12.815
268	725.00	-2882.6	36950.	12.818
1072	725.00	-2863.7	36950.	12.903
153	725.00	-2862.7	36950.	12.907
646	725.00	-2857.8	36950.	12.930
267	725.00	-2857.1	36950.	12.933
1073	725.00	-2838.3	36950.	13.018
152	725.00	-2837.2	36950.	13.023
647	725.00	-2832.3	36950.	13.046
266	725.00	-2831.7	36950.	13.049
1074	725.00	-2812.8	36950.	13.136
151	725.00	-2811.8	36950.	13.141
648	725.00	-2806.9	36950.	13.164
265	725.00	-2806.2	36950.	13.167
1003	725.00	-2729.0	36950.	13.540
1350	725.00	-2728.7	36950.	13.541
1004	725.00	-2726.2	36950.	13.553
1349	725.00	-2725.9	36950.	13.555
499	725.00	-2704.4	36950.	13.663
894	725.00	-2704.4	36950.	13.663
500	725.00	-2701.6	36950.	13.677
893	725.00	-2701.6	36950.	13.677
1005	725.00	-2700.8	36950.	13.681
1348	725.00	-2700.5	36950.	13.683
501	725.00	-2676.2	36950.	13.807
892	725.00	-2676.2	36950.	13.807
1006	725.00	-2675.3	36950.	13.811
1347	725.00	-2675.0	36950.	13.813
502	725.00	-2650.7	36950.	13.940
891	725.00	-2650.7	36950.	13.940
1007	725.00	-2649.9	36950.	13.944
1346	725.00	-2649.5	36950.	13.946
503	725.00	-2625.3	36950.	14.075
890	725.00	-2625.2	36950.	14.075
1008	725.00	-2624.4	36950.	14.079
1345	725.00	-2624.1	36950.	14.081
619	725.00	-2601.2	36950.	14.205
504	725.00	-2599.8	36950.	14.213

Table 3.AA.52 (continued)

889	725.00	-2599.8	36950.	14.213
620	725.00	-2598.4	36950.	14.220
102	725.00	-2581.1	36950.	14.316
101	725.00	-2578.3	36950.	14.331
621	725.00	-2573.0	36950.	14.361
100	725.00	-2552.9	36950.	14.474
622	725.00	-2547.5	36950.	14.504
99	725.00	-2527.4	36950.	14.620
623	725.00	-2522.0	36950.	14.651
98	725.00	-2501.9	36950.	14.769
624	725.00	-2496.6	36950.	14.800
438	725.00	-2487.3	36950.	14.855
451	725.00	-2487.2	36950.	14.856
437	725.00	-2484.5	36950.	14.872
452	725.00	-2484.5	36950.	14.872
97	725.00	-2476.5	36950.	14.920
436	725.00	-2459.1	36950.	15.026
453	725.00	-2459.0	36950.	15.026
435	725.00	-2433.6	36950.	15.183
454	725.00	-2433.6	36950.	15.183
434	725.00	-2408.2	36950.	15.344
455	725.00	-2408.1	36950.	15.344
433	725.00	-2382.7	36950.	15.508
456	725.00	-2382.6	36950.	15.508
1110	725.00	-2283.4	36950.	16.182
523	725.00	-2283.2	36950.	16.183
1109	725.00	-2280.6	36950.	16.202
524	725.00	-2280.4	36950.	16.203
1108	725.00	-2255.2	36950.	16.385
525	725.00	-2255.0	36950.	16.386
1107	725.00	-2229.7	36950.	16.572
526	725.00	-2229.5	36950.	16.573
1106	725.00	-2204.2	36950.	16.763
527	725.00	-2204.1	36950.	16.765
1105	725.00	-2178.8	36950.	16.959
528	725.00	-2178.6	36950.	16.960
283	725.00	-2118.7	36950.	17.440
630	725.00	-2118.7	36950.	17.440
284	725.00	-2116.0	36950.	17.462
629	725.00	-2116.0	36950.	17.462
285	725.00	-2090.5	36950.	17.675
628	725.00	-2090.5	36950.	17.675
286	725.00	-2065.1	36950.	17.893
627	725.00	-2065.0	36950.	17.893
287	725.00	-2039.6	36950.	18.116
626	725.00	-2039.6	36950.	18.116
763	725.00	-2037.1	36950.	18.138
1326	725.00	-2036.9	36950.	18.141
764	725.00	-2034.4	36950.	18.163
1325	725.00	-2034.1	36950.	18.165
288	725.00	-2014.1	36950.	18.345
625	725.00	-2014.1	36950.	18.345
765	725.00	-2008.9	36950.	18.393

Table 3.AA.52 (continued)

1324	725.00	-2008.6	36950.	18.396
427	725.00	-2006.9	36950.	18.411
246	725.00	-2006.5	36950.	18.416
428	725.00	-2004.2	36950.	18.437
245	725.00	-2003.7	36950.	18.441
766	725.00	-1983.4	36950.	18.629
1323	725.00	-1983.2	36950.	18.632
429	725.00	-1978.7	36950.	18.674
244	725.00	-1978.2	36950.	18.678
767	725.00	-1958.0	36950.	18.872
1322	725.00	-1957.7	36950.	18.874
430	725.00	-1953.3	36950.	18.917
243	725.00	-1952.8	36950.	18.922
835	725.00	-1932.8	36950.	19.117
768	725.00	-1932.5	36950.	19.120
1321	725.00	-1932.3	36950.	19.123
30	725.00	-1931.8	36950.	19.127
836	725.00	-1930.0	36950.	19.145
29	725.00	-1929.1	36950.	19.154
431	725.00	-1927.8	36950.	19.167
242	725.00	-1927.3	36950.	19.172
837	725.00	-1904.6	36950.	19.401
28	725.00	-1903.6	36950.	19.410
432	725.00	-1902.3	36950.	19.424
241	725.00	-1901.8	36950.	19.428
1494	725.00	-1882.5	36950.	19.628
787	725.00	-1882.5	36950.	19.628
1493	725.00	-1879.8	36950.	19.656
788	725.00	-1879.8	36950.	19.657
838	725.00	-1879.1	36950.	19.663
27	725.00	-1878.2	36950.	19.673
1492	725.00	-1854.3	36950.	19.926
789	725.00	-1854.3	36950.	19.927
839	725.00	-1853.7	36950.	19.934
26	725.00	-1852.7	36950.	19.944
1491	725.00	-1828.9	36950.	20.204
790	725.00	-1828.8	36950.	20.204
840	725.00	-1828.2	36950.	20.211
25	725.00	-1827.2	36950.	20.222
1490	725.00	-1803.4	36950.	20.489
791	725.00	-1803.4	36950.	20.489
1489	725.00	-1777.9	36950.	20.782
792	725.00	-1777.9	36950.	20.783
307	725.00	-1766.1	36950.	20.921
870	725.00	-1766.1	36950.	20.921
308	725.00	-1763.4	36950.	20.954
869	725.00	-1763.4	36950.	20.954
309	725.00	-1737.9	36950.	21.261
868	725.00	-1737.9	36950.	21.261
310	725.00	-1712.5	36950.	21.577
867	725.00	-1712.4	36950.	21.577
311	725.00	-1687.0	36950.	21.903
866	725.00	-1687.0	36950.	21.903

Table 3.AA.52 (continued)

403	725.00	-1669.4	36950.	22.134
404	725.00	-1666.7	36950.	22.170
312	725.00	-1661.5	36950.	22.238
865	725.00	-1661.5	36950.	22.239
78	725.00	-1649.0	36950.	22.407
77	725.00	-1646.3	36950.	22.445
405	725.00	-1641.2	36950.	22.514
76	725.00	-1620.8	36950.	22.797
406	725.00	-1615.7	36950.	22.869
75	725.00	-1595.3	36950.	23.161
407	725.00	-1590.3	36950.	23.235
74	725.00	-1569.9	36950.	23.537
408	725.00	-1564.8	36950.	23.613
73	725.00	-1544.4	36950.	23.925
414	725.00	-1539.5	36950.	24.001
259	725.00	-1539.5	36950.	24.001
413	725.00	-1536.8	36950.	24.044
260	725.00	-1536.8	36950.	24.044
412	725.00	-1511.3	36950.	24.449
261	725.00	-1511.3	36950.	24.449
411	725.00	-1485.8	36950.	24.868
262	725.00	-1485.8	36950.	24.868
410	725.00	-1460.4	36950.	25.302
263	725.00	-1460.4	36950.	25.302
409	725.00	-1434.9	36950.	25.750
264	725.00	-1434.9	36950.	25.751
547	725.00	-1325.0	36950.	27.886
1302	725.00	-1324.8	36950.	27.890
548	725.00	-1322.3	36950.	27.944
1301	725.00	-1322.1	36950.	27.949
549	725.00	-1296.8	36950.	28.493
1300	725.00	-1296.6	36950.	28.497
1086	725.00	-1290.6	36950.	28.631
331	725.00	-1290.5	36950.	28.633
1085	725.00	-1287.8	36950.	28.692
332	725.00	-1287.7	36950.	28.695
550	725.00	-1271.4	36950.	29.064
1299	725.00	-1271.1	36950.	29.068
1084	725.00	-1262.3	36950.	29.271
333	725.00	-1262.2	36950.	29.273
551	725.00	-1245.9	36950.	29.658
1298	725.00	-1245.7	36950.	29.662
1083	725.00	-1236.9	36950.	29.874
334	725.00	-1236.8	36950.	29.876
552	725.00	-1220.4	36950.	30.276
1297	725.00	-1220.2	36950.	30.281
1082	725.00	-1211.4	36950.	30.501
335	725.00	-1211.3	36950.	30.504
115	725.00	-1205.0	36950.	30.664
606	725.00	-1205.0	36950.	30.664
116	725.00	-1202.3	36950.	30.734
605	725.00	-1202.2	36950.	30.734
1081	725.00	-1186.0	36950.	31.156

Table 3.AA.52 (continued)

336	725.00	-1185.8	36950.	31.159
117	725.00	-1176.8	36950.	31.399
604	725.00	-1176.8	36950.	31.399
118	725.00	-1151.3	36950.	32.093
603	725.00	-1151.3	36950.	32.094
119	725.00	-1125.9	36950.	32.819
602	725.00	-1125.9	36950.	32.820
235	725.00	-1114.2	36950.	33.163
222	725.00	-1113.9	36950.	33.171
236	725.00	-1111.4	36950.	33.245
221	725.00	-1111.2	36950.	33.253
120	725.00	-1100.4	36950.	33.579
601	725.00	-1100.4	36950.	33.579
237	725.00	-1086.0	36950.	34.024
220	725.00	-1085.7	36950.	34.033
238	725.00	-1060.5	36950.	34.841
219	725.00	-1060.3	36950.	34.850
239	725.00	-1035.1	36950.	35.698
218	725.00	-1034.8	36950.	35.708
240	725.00	-1009.6	36950.	36.599
217	725.00	-1009.3	36950.	36.609
1470	725.00	-1001.2	36950.	36.907
571	725.00	-1001.1	36950.	36.909
1469	725.00	-998.42	36950.	37.009
572	725.00	-998.36	36950.	37.011
1468	725.00	-972.96	36950.	37.977
573	725.00	-972.90	36950.	37.979
1467	725.00	-947.49	36950.	38.998
574	725.00	-947.44	36950.	39.000
595	725.00	-926.97	36950.	39.861
6	725.00	-926.16	36950.	39.896
596	725.00	-924.21	36950.	39.980
5	725.00	-923.40	36950.	40.015
1466	725.00	-922.03	36950.	40.075
575	725.00	-921.97	36950.	40.077
597	725.00	-898.75	36950.	41.113
4	725.00	-897.94	36950.	41.150
1465	725.00	-896.57	36950.	41.213
576	725.00	-896.51	36950.	41.215
598	725.00	-873.29	36950.	42.311
3	725.00	-872.48	36950.	42.351
599	725.00	-847.83	36950.	43.582
2	725.00	-847.02	36950.	43.624
139	725.00	-839.22	36950.	44.029
846	725.00	-839.21	36950.	44.029
140	725.00	-836.46	36950.	44.174
845	725.00	-836.45	36950.	44.175
600	725.00	-822.36	36950.	44.931
1	725.00	-821.55	36950.	44.976
141	725.00	-811.00	36950.	45.561
844	725.00	-810.99	36950.	45.561
142	725.00	-785.54	36950.	47.038
843	725.00	-785.53	36950.	47.038

Table 3.AA.52 (continued)

143	725.00	-760.08	36950.	48.614
842	725.00	-760.07	36950.	48.614
144	725.00	-734.61	36950.	50.299
841	725.00	-734.61	36950.	50.299
211	725.00	-653.90	36950.	56.507
212	725.00	-651.15	36950.	56.746
54	725.00	-633.15	36950.	58.359
53	725.00	-630.39	36950.	58.615
213	725.00	-625.68	36950.	59.055
52	725.00	-604.93	36950.	61.082
214	725.00	-600.22	36950.	61.561
355	725.00	-599.96	36950.	61.588
1278	725.00	-599.81	36950.	61.603
356	725.00	-597.20	36950.	61.872
1277	725.00	-597.05	36950.	61.887
390	725.00	-580.87	36950.	63.611
91	725.00	-580.85	36950.	63.614
51	725.00	-579.46	36950.	63.766
389	725.00	-578.12	36950.	63.915
92	725.00	-578.09	36950.	63.917
215	725.00	-574.76	36950.	64.288
357	725.00	-571.74	36950.	64.628
1276	725.00	-571.59	36950.	64.644
50	725.00	-554.00	36950.	66.697
388	725.00	-552.65	36950.	66.859
93	725.00	-552.63	36950.	66.862
216	725.00	-549.30	36950.	67.268
358	725.00	-546.27	36950.	67.640
1275	725.00	-546.13	36950.	67.658
49	725.00	-528.54	36950.	69.910
387	725.00	-527.19	36950.	70.088
94	725.00	-527.17	36950.	70.092
359	725.00	-520.81	36950.	70.947
1274	725.00	-520.67	36950.	70.967
386	725.00	-501.73	36950.	73.645
95	725.00	-501.71	36950.	73.649
360	725.00	-495.35	36950.	74.594
1273	725.00	-495.20	36950.	74.616
1614	725.00	-489.10	36950.	75.547
1051	725.00	-489.00	36950.	75.562
1613	725.00	-486.35	36950.	75.975
1052	725.00	-486.24	36950.	75.991
385	725.00	-476.27	36950.	77.583
96	725.00	-476.24	36950.	77.586
1612	725.00	-460.88	36950.	80.172
1053	725.00	-460.78	36950.	80.190
1611	725.00	-435.42	36950.	84.860
1054	725.00	-435.32	36950.	84.880
1610	725.00	-409.96	36950.	90.131
1055	725.00	-409.86	36950.	90.153
1609	725.00	-384.50	36950.	96.100
1056	725.00	-384.40	36950.	96.125
397	725.00	-360.03	36950.	102.63

Table 3.AA.52 (continued)

84	725.00	-359.38	36950.	102.82
36	725.00	-359.14	36950.	102.89
829	725.00	-359.10	36950.	102.90
398	725.00	-357.27	36950.	103.42
83	725.00	-356.63	36950.	103.61
35	725.00	-356.38	36950.	103.68
830	725.00	-356.34	36950.	103.69
399	725.00	-331.81	36950.	111.36
82	725.00	-331.16	36950.	111.58
34	725.00	-330.92	36950.	111.66
831	725.00	-330.88	36950.	111.67
400	725.00	-306.35	36950.	120.62
81	725.00	-305.70	36950.	120.87
33	725.00	-305.46	36950.	120.97
832	725.00	-305.42	36950.	120.98
1062	725.00	-283.81	36950.	130.19
163	725.00	-283.76	36950.	130.22
1061	725.00	-281.05	36950.	131.47
164	725.00	-281.00	36950.	131.49
401	725.00	-280.88	36950.	131.55
80	725.00	-280.24	36950.	131.85
32	725.00	-279.99	36950.	131.97
833	725.00	-279.96	36950.	131.99
1446	725.00	-279.30	36950.	132.30
379	725.00	-279.28	36950.	132.31
1445	725.00	-276.54	36950.	133.61
380	725.00	-276.52	36950.	133.63
582	725.00	-273.22	36950.	135.24
19	725.00	-273.22	36950.	135.24
581	725.00	-270.46	36950.	136.62
20	725.00	-270.46	36950.	136.62
1060	725.00	-255.59	36950.	144.57
165	725.00	-255.54	36950.	144.60
402	725.00	-255.42	36950.	144.66
79	725.00	-254.78	36950.	145.03
31	725.00	-254.53	36950.	145.17
834	725.00	-254.49	36950.	145.19
1444	725.00	-251.08	36950.	147.16
381	725.00	-251.06	36950.	147.18
580	725.00	-245.00	36950.	150.82
21	725.00	-245.00	36950.	150.82
1059	725.00	-230.12	36950.	160.57
166	725.00	-230.08	36950.	160.60
1443	725.00	-225.62	36950.	163.77
382	725.00	-225.59	36950.	163.79
579	725.00	-219.54	36950.	168.31
22	725.00	-219.54	36950.	168.31
67	725.00	-209.62	36950.	176.27
198	725.00	-209.37	36950.	176.48
68	725.00	-206.86	36950.	178.62
197	725.00	-206.61	36950.	178.84
1058	725.00	-204.66	36950.	180.54
167	725.00	-204.61	36950.	180.58

Table 3.AA.52 (continued)

1442	725.00	-200.15	36950.	184.61
383	725.00	-200.13	36950.	184.63
578	725.00	-194.08	36950.	190.39
23	725.00	-194.07	36950.	190.39
822	725.00	-190.72	36950.	193.74
43	725.00	-190.72	36950.	193.74
821	725.00	-187.96	36950.	196.58
44	725.00	-187.96	36950.	196.59
69	725.00	-181.40	36950.	203.69
196	725.00	-181.15	36950.	203.98
1057	725.00	-179.20	36950.	206.20
168	725.00	-179.15	36950.	206.25
1441	725.00	-174.69	36950.	211.51
384	725.00	-174.67	36950.	211.54
577	725.00	-168.61	36950.	219.14
24	725.00	-168.61	36950.	219.14
820	725.00	-162.50	36950.	227.38
45	725.00	-162.50	36950.	227.39
70	725.00	-155.94	36950.	236.95
195	725.00	-155.69	36950.	237.34
819	725.00	-137.04	36950.	269.63
46	725.00	-137.03	36950.	269.64
187	725.00	-136.97	36950.	269.77
1254	725.00	-136.89	36950.	269.92
188	725.00	-134.21	36950.	275.32
1253	725.00	-134.14	36950.	275.46
71	725.00	-130.48	36950.	283.19
194	725.00	-130.22	36950.	283.74
818	725.00	-111.58	36950.	331.16
47	725.00	-111.57	36950.	331.18
189	725.00	-108.75	36950.	339.78
1252	725.00	-108.68	36950.	340.00
72	725.00	-105.01	36950.	351.86
193	725.00	-104.76	36950.	352.71
61	725.00	-97.861	36950.	377.58
204	725.00	-87.408	36950.	422.73
817	725.00	-86.116	36950.	429.07
48	725.00	-86.109	36950.	429.10
203	725.00	-84.651	36950.	436.50
62	725.00	-84.376	36950.	437.92
190	725.00	-83.285	36950.	443.66
1251	725.00	-83.213	36950.	444.04
13	725.00	-72.882	36950.	506.98
588	725.00	-72.875	36950.	507.03
14	725.00	-70.125	36950.	526.92
587	725.00	-70.118	36950.	526.97
594	725.00	68.839	36950.	536.76
7	725.00	68.817	36950.	536.93
593	725.00	66.082	36950.	559.16
8	725.00	66.060	36950.	559.34
55	725.00	62.444	36950.	591.73
210	725.00	62.040	36950.	595.58
1590	725.00	-60.224	36950.	613.54

Table 3.AA.52 (continued)

811	725.00	-60.181	36950.	613.99
56	725.00	59.687	36950.	619.07
209	725.00	59.283	36950.	623.28
202	725.00	-59.189	36950.	624.28
63	725.00	-58.914	36950.	627.19
191	725.00	-57.822	36950.	639.03
1250	725.00	-57.751	36950.	639.82
1589	725.00	-57.467	36950.	642.97
812	725.00	-57.423	36950.	643.47
816	725.00	48.183	36950.	766.87
1585	725.00	48.139	36950.	767.57
205	725.00	-46.323	36950.	797.65
60	725.00	-45.919	36950.	804.67
815	725.00	45.426	36950.	813.42
1586	725.00	45.382	36950.	814.20
15	725.00	-44.663	36950.	827.31
586	725.00	-44.656	36950.	827.44
206	725.00	-43.566	36950.	848.13
59	725.00	-43.162	36950.	856.07
592	725.00	40.619	36950.	909.66
9	725.00	40.598	36950.	910.14
12	725.00	-39.546	36950.	934.36
589	725.00	-39.524	36950.	934.86
11	725.00	-36.789	36950.	1004.4
590	725.00	-36.767	36950.	1005.0
583	725.00	35.488	36950.	1041.2
18	725.00	35.481	36950.	1041.4
57	725.00	34.224	36950.	1079.6
208	725.00	33.821	36950.	1092.5
201	725.00	-33.726	36950.	1095.6
64	725.00	-33.451	36950.	1104.6
584	725.00	32.731	36950.	1128.9
17	725.00	32.724	36950.	1129.1
192	725.00	-32.360	36950.	1141.8
1249	725.00	-32.289	36950.	1144.4
1588	725.00	-32.005	36950.	1154.5
813	725.00	-31.961	36950.	1156.1
66	725.00	21.230	36950.	1740.4
199	725.00	20.955	36950.	1763.3
814	725.00	-19.963	36950.	1850.9
1587	725.00	19.919	36950.	1855.0
16	725.00	-19.201	36950.	1924.4
585	725.00	19.194	36950.	1925.1
65	725.00	-18.473	36950.	2000.2
200	725.00	18.198	36950.	2030.4
207	725.00	-18.104	36950.	2041.0
58	725.00	17.700	36950.	2087.6
591	725.00	-15.157	36950.	2437.8
10	725.00	15.136	36950.	2441.2

Table 3.AA.53

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Fuel Basket
SUBTITLE 2 =
Load Combination: F3.c (See Table 3.1.3)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	CURRENT PL+PB	PREVIOUS ALLOW	PREVIOUS SF
774	725.00	35476.	55450.	1.5630
1507	725.00	35476.	55450.	1.5630
558	725.00	34294.	55450.	1.6169
1483	725.00	34294.	55450.	1.6169
1014	725.00	34268.	55450.	1.6181
1531	725.00	34268.	55450.	1.6181
773	725.00	33026.	55450.	1.6790
1508	725.00	33025.	55450.	1.6790
1459	725.00	32756.	55450.	1.6928
366	725.00	32753.	55450.	1.6930
1013	725.00	31866.	55450.	1.7401
1532	725.00	31866.	55450.	1.7401
557	725.00	31855.	55450.	1.7407
1484	725.00	31855.	55450.	1.7407
1460	725.00	30337.	55450.	1.8278
365	725.00	30334.	55450.	1.8280
793	725.00	25888.	55450.	2.1420
1608	725.00	25883.	55450.	2.1423
1446	725.00	25652.	55450.	2.1616
379	725.00	25650.	55450.	2.1618
1555	725.00	25529.	55450.	2.1721
1230	725.00	25527.	55450.	2.1722
1243	725.00	24925.	55450.	2.2246
1542	725.00	24925.	55450.	2.2247
822	725.00	24281.	55450.	2.2836
43	725.00	24280.	55450.	2.2838
67	725.00	24267.	55450.	2.2850
198	725.00	24249.	55450.	2.2867
1033	725.00	24222.	55450.	2.2892
1632	725.00	24219.	55450.	2.2895
582	725.00	24116.	55450.	2.2993
19	725.00	24114.	55450.	2.2995
794	725.00	23968.	55450.	2.3135
1607	725.00	23964.	55450.	2.3139
1579	725.00	23887.	55450.	2.3214
1422	725.00	23884.	55450.	2.3217
1566	725.00	23859.	55450.	2.3241
1435	725.00	23856.	55450.	2.3244
1075	725.00	23595.	55450.	2.3501

Table 3.AA.53 (continued)

150	725.00	23574.	55450.	2.3522
1556	725.00	23481.	55450.	2.3614
1229	725.00	23479.	55450.	2.3617
1445	725.00	23200.	55450.	2.3901
380	725.00	23198.	55450.	2.3903
403	725.00	22975.	55450.	2.4134
78	725.00	22955.	55450.	2.4155
1244	725.00	22926.	55450.	2.4187
1541	725.00	22925.	55450.	2.4188
438	725.00	22855.	55450.	2.4261
451	725.00	22855.	55450.	2.4261
427	725.00	22855.	55450.	2.4261
246	725.00	22849.	55450.	2.4268
1123	725.00	22795.	55450.	2.4325
510	725.00	22795.	55450.	2.4326
907	725.00	22769.	55450.	2.4353
486	725.00	22769.	55450.	2.4353
883	725.00	22691.	55450.	2.4437
294	725.00	22687.	55450.	2.4441
859	725.00	22667.	55450.	2.4462
126	725.00	22647.	55450.	2.4484
6	725.00	22471.	55450.	2.4676
595	725.00	22468.	55450.	2.4679
475	725.00	22456.	55450.	2.4693
654	725.00	22456.	55450.	2.4693
1099	725.00	22456.	55450.	2.4693
318	725.00	22451.	55450.	2.4698
1034	725.00	22442.	55450.	2.4708
1631	725.00	22439.	55450.	2.4712
1470	725.00	22362.	55450.	2.4796
571	725.00	22361.	55450.	2.4798
187	725.00	22301.	55450.	2.4864
1254	725.00	22295.	55450.	2.4871
931	725.00	22193.	55450.	2.4985
702	725.00	22193.	55450.	2.4985
1147	725.00	22184.	55450.	2.4995
726	725.00	22183.	55450.	2.4996
821	725.00	21963.	55450.	2.5247
44	725.00	21962.	55450.	2.5249
30	725.00	21931.	55450.	2.5284
835	725.00	21929.	55450.	2.5286
68	725.00	21881.	55450.	2.5342
197	725.00	21864.	55450.	2.5362
1565	725.00	21848.	55450.	2.5379
1436	725.00	21846.	55450.	2.5383
1580	725.00	21766.	55450.	2.5476
1421	725.00	21763.	55450.	2.5479
581	725.00	21755.	55450.	2.5489
20	725.00	21753.	55450.	2.5491
462	725.00	21745.	55450.	2.5500
667	725.00	21745.	55450.	2.5500
643	725.00	21649.	55450.	2.5613
270	725.00	21645.	55450.	2.5618

Table 3.AA.53 (continued)

1076	725.00	21605.	55450.	2.5665
149	725.00	21585.	55450.	2.5690
894	725.00	21354.	55450.	2.5967
499	725.00	21354.	55450.	2.5968
619	725.00	21296.	55450.	2.6037
211	725.00	21295.	55450.	2.6039
678	725.00	21295.	55450.	2.6039
691	725.00	21295.	55450.	2.6039
54	725.00	21281.	55450.	2.6056
102	725.00	21276.	55450.	2.6062
547	725.00	21197.	55450.	2.6159
1302	725.00	21196.	55450.	2.6161
91	725.00	21089.	55450.	2.6293
390	725.00	21077.	55450.	2.6309
1171	725.00	21055.	55450.	2.6336
966	725.00	21054.	55450.	2.6337
942	725.00	21019.	55450.	2.6381
955	725.00	21019.	55450.	2.6381
1124	725.00	20880.	55450.	2.6557
509	725.00	20879.	55450.	2.6558
404	725.00	20825.	55450.	2.6626
77	725.00	20805.	55450.	2.6652
908	725.00	20788.	55450.	2.6675
485	725.00	20788.	55450.	2.6675
437	725.00	20770.	55450.	2.6698
452	725.00	20770.	55450.	2.6698
1003	725.00	20750.	55450.	2.6723
1350	725.00	20748.	55450.	2.6726
428	725.00	20745.	55450.	2.6730
245	725.00	20739.	55450.	2.6737
1392	725.00	20726.	55450.	2.6754
1201	725.00	20724.	55450.	2.6757
884	725.00	20685.	55450.	2.6808
293	725.00	20680.	55450.	2.6813
115	725.00	20662.	55450.	2.6837
606	725.00	20652.	55450.	2.6850
860	725.00	20649.	55450.	2.6853
125	725.00	20629.	55450.	2.6880
414	725.00	20614.	55450.	2.6899
259	725.00	20603.	55450.	2.6914
139	725.00	20552.	55450.	2.6980
846	725.00	20544.	55450.	2.6990
1100	725.00	20523.	55450.	2.7018
317	725.00	20519.	55450.	2.7024
653	725.00	20419.	55450.	2.7157
476	725.00	20419.	55450.	2.7157
5	725.00	20333.	55450.	2.7272
596	725.00	20330.	55450.	2.7275
1148	725.00	20324.	55450.	2.7283
725	725.00	20323.	55450.	2.7284
932	725.00	20267.	55450.	2.7360
701	725.00	20267.	55450.	2.7360
1469	725.00	20206.	55450.	2.7442

Table 3.AA.53 (continued)

572	725.00	20204.	55450.	2.7444
630	725.00	20196.	55450.	2.7456
918	725.00	20194.	55450.	2.7458
715	725.00	20194.	55450.	2.7458
283	725.00	20187.	55450.	2.7468
763	725.00	20149.	55450.	2.7519
1326	725.00	20148.	55450.	2.7522
188	725.00	20141.	55450.	2.7531
1253	725.00	20136.	55450.	2.7538
222	725.00	20057.	55450.	2.7646
235	725.00	20050.	55450.	2.7656
29	725.00	19840.	55450.	2.7948
836	725.00	19839.	55450.	2.7951
1219	725.00	19806.	55450.	2.7996
1374	725.00	19803.	55450.	2.8000
461	725.00	19769.	55450.	2.8048
668	725.00	19769.	55450.	2.8049
644	725.00	19651.	55450.	2.8217
269	725.00	19647.	55450.	2.8224
1278	725.00	19371.	55450.	2.8625
677	725.00	19369.	55450.	2.8629
692	725.00	19369.	55450.	2.8629
355	725.00	19368.	55450.	2.8629
893	725.00	19356.	55450.	2.8648
500	725.00	19355.	55450.	2.8649
620	725.00	19302.	55450.	2.8728
101	725.00	19282.	55450.	2.8758
1172	725.00	19239.	55450.	2.8822
965	725.00	19238.	55450.	2.8824
212	725.00	19205.	55450.	2.8872
53	725.00	19191.	55450.	2.8893
548	725.00	19140.	55450.	2.8970
1301	725.00	19139.	55450.	2.8973
941	725.00	19138.	55450.	2.8974
956	725.00	19138.	55450.	2.8974
92	725.00	19015.	55450.	2.9161
389	725.00	19004.	55450.	2.9178
870	725.00	18995.	55450.	2.9192
307	725.00	18987.	55450.	2.9204
1391	725.00	18910.	55450.	2.9324
1202	725.00	18908.	55450.	2.9327
1004	725.00	18788.	55450.	2.9513
1349	725.00	18786.	55450.	2.9516
163	725.00	18752.	55450.	2.9570
1062	725.00	18744.	55450.	2.9582
116	725.00	18644.	55450.	2.9741
605	725.00	18635.	55450.	2.9757
413	725.00	18589.	55450.	2.9829
260	725.00	18579.	55450.	2.9846
140	725.00	18494.	55450.	2.9984
845	725.00	18486.	55450.	2.9996
1518	725.00	18439.	55450.	3.0073
1027	725.00	18437.	55450.	3.0076

Table 3.AA.53 (continued)

1494	725.00	18408.	55450.	3.0123
787	725.00	18406.	55450.	3.0126
917	725.00	18309.	55450.	3.0286
716	725.00	18309.	55450.	3.0286
629	725.00	18224.	55450.	3.0426
284	725.00	18215.	55450.	3.0441
764	725.00	18187.	55450.	3.0489
1325	725.00	18185.	55450.	3.0492
523	725.00	18143.	55450.	3.0564
1110	725.00	18141.	55450.	3.0566
1368	725.00	18064.	55450.	3.0696
985	725.00	18060.	55450.	3.0703
221	725.00	18055.	55450.	3.0711
236	725.00	18048.	55450.	3.0723
1220	725.00	17936.	55450.	3.0915
1373	725.00	17933.	55450.	3.0920
1195	725.00	17788.	55450.	3.1172
1182	725.00	17786.	55450.	3.1176
799	725.00	17752.	55450.	3.1236
1602	725.00	17748.	55450.	3.1243
979	725.00	17694.	55450.	3.1337
1158	725.00	17693.	55450.	3.1340
1277	725.00	17346.	55450.	3.1967
356	725.00	17344.	55450.	3.1971
1344	725.00	17304.	55450.	3.2045
745	725.00	17300.	55450.	3.2053
800	725.00	17142.	55450.	3.2348
1601	725.00	17138.	55450.	3.2355
869	725.00	17068.	55450.	3.2487
308	725.00	17061.	55450.	3.2501
739	725.00	16920.	55450.	3.2772
1134	725.00	16919.	55450.	3.2774
1486	725.00	16826.	55450.	3.2956
1487	725.00	16826.	55450.	3.2956
554	725.00	16825.	55450.	3.2957
555	725.00	16825.	55450.	3.2957
1511	725.00	16807.	55450.	3.2993
1510	725.00	16807.	55450.	3.2993
771	725.00	16806.	55450.	3.2994
770	725.00	16806.	55450.	3.2994
164	725.00	16686.	55450.	3.3232
1061	725.00	16678.	55450.	3.3247
342	725.00	16645.	55450.	3.3313
1291	725.00	16644.	55450.	3.3315
1517	725.00	16616.	55450.	3.3372
1028	725.00	16614.	55450.	3.3376
534	725.00	16562.	55450.	3.3479
1315	725.00	16559.	55450.	3.3487
1627	725.00	16547.	55450.	3.3511
1038	725.00	16544.	55450.	3.3517
1493	725.00	16499.	55450.	3.3608
788	725.00	16497.	55450.	3.3612
1458	725.00	16391.	55450.	3.3829

Table 3.AA.53 (continued)

1463	725.00	16387.	55450.	3.3839
1462	725.00	16387.	55450.	3.3839
362	725.00	16384.	55450.	3.3844
363	725.00	16384.	55450.	3.3844
1367	725.00	16383.	55450.	3.3846
986	725.00	16379.	55450.	3.3854
367	725.00	16370.	55450.	3.3872
524	725.00	16285.	55450.	3.4050
1109	725.00	16284.	55450.	3.4053
1457	725.00	16130.	55450.	3.4376
1196	725.00	16128.	55450.	3.4382
1181	725.00	16126.	55450.	3.4386
1534	725.00	16123.	55450.	3.4391
1535	725.00	16123.	55450.	3.4391
1011	725.00	16123.	55450.	3.4393
1010	725.00	16123.	55450.	3.4393
368	725.00	16109.	55450.	3.4421
980	725.00	15968.	55450.	3.4725
1157	725.00	15967.	55450.	3.4728
1267	725.00	15911.	55450.	3.4850
174	725.00	15896.	55450.	3.4884
1343	725.00	15677.	55450.	3.5371
746	725.00	15673.	55450.	3.5380
750	725.00	15599.	55450.	3.5547
1339	725.00	15595.	55450.	3.5557
1320	725.00	15577.	55450.	3.5596
529	725.00	15574.	55450.	3.5605
1086	725.00	15386.	55450.	3.6040
331	725.00	15381.	55450.	3.6050
1416	725.00	15348.	55450.	3.6129
1393	725.00	15344.	55450.	3.6138
740	725.00	15184.	55450.	3.6518
1133	725.00	15183.	55450.	3.6521
1628	725.00	15161.	55450.	3.6575
1037	725.00	15158.	55450.	3.6582
341	725.00	15005.	55450.	3.6955
1292	725.00	15004.	55450.	3.6957
533	725.00	14954.	55450.	3.7080
1316	725.00	14950.	55450.	3.7090
1453	725.00	14794.	55450.	3.7483
372	725.00	14772.	55450.	3.7536
1177	725.00	14769.	55450.	3.7545
1200	725.00	14766.	55450.	3.7551
1590	725.00	14736.	55450.	3.7630
811	725.00	14733.	55450.	3.7636
1559	725.00	14478.	55450.	3.8300
1558	725.00	14478.	55450.	3.8300
1227	725.00	14477.	55450.	3.8303
1226	725.00	14477.	55450.	3.8303
1296	725.00	14417.	55450.	3.8462
337	725.00	14414.	55450.	3.8469
772	725.00	14337.	55450.	3.8677
1509	725.00	14336.	55450.	3.8678

Table 3.AA.53 (continued)

1268	725.00	14270.	55450.	3.8859
804	725.00	14262.	55450.	3.8879
1597	725.00	14259.	55450.	3.8888
173	725.00	14254.	55450.	3.8901
990	725.00	14249.	55450.	3.8914
1363	725.00	14245.	55450.	3.8926
1454	725.00	14109.	55450.	3.9302
1512	725.00	14094.	55450.	3.9343
769	725.00	14093.	55450.	3.9345
371	725.00	14087.	55450.	3.9361
803	725.00	14065.	55450.	3.9424
1598	725.00	14062.	55450.	3.9432
749	725.00	14060.	55450.	3.9439
1340	725.00	14056.	55450.	3.9450
1319	725.00	14020.	55450.	3.9552
530	725.00	14016.	55450.	3.9562
1488	725.00	14005.	55450.	3.9594
553	725.00	14004.	55450.	3.9596
1228	725.00	13799.	55450.	4.0185
1557	725.00	13798.	55450.	4.0186
1415	725.00	13699.	55450.	4.0477
1394	725.00	13695.	55450.	4.0488
1085	725.00	13633.	55450.	4.0672
1272	725.00	13633.	55450.	4.0674
332	725.00	13629.	55450.	4.0685
1012	725.00	13628.	55450.	4.0688
1533	725.00	13627.	55450.	4.0690
169	725.00	13609.	55450.	4.0744
1583	725.00	13526.	55450.	4.0994
1582	725.00	13526.	55450.	4.0994
1419	725.00	13525.	55450.	4.0997
1418	725.00	13525.	55450.	4.0997
795	725.00	13524.	55450.	4.1002
796	725.00	13524.	55450.	4.1002
1606	725.00	13524.	55450.	4.1002
1605	725.00	13524.	55450.	4.1002
1464	725.00	13381.	55450.	4.1438
361	725.00	13377.	55450.	4.1450
556	725.00	13275.	55450.	4.1771
1485	725.00	13274.	55450.	4.1773
1178	725.00	13263.	55450.	4.1807
1199	725.00	13261.	55450.	4.1814
1456	725.00	13198.	55450.	4.2013
369	725.00	13178.	55450.	4.2077
797	725.00	13121.	55450.	4.2262
1604	725.00	13118.	55450.	4.2269
1536	725.00	12960.	55450.	4.2786
1009	725.00	12959.	55450.	4.2788
1589	725.00	12928.	55450.	4.2890
812	725.00	12926.	55450.	4.2898
1295	725.00	12891.	55450.	4.3015
338	725.00	12888.	55450.	4.3023
1603	725.00	12802.	55450.	4.3313

Table 3.AA.53 (continued)

798	725.00	12798.	55450.	4.3328
1398	725.00	12792.	55450.	4.3348
1411	725.00	12789.	55450.	4.3357
989	725.00	12764.	55450.	4.3442
1364	725.00	12760.	55450.	4.3455
1342	725.00	12695.	55450.	4.3680
1341	725.00	12695.	55450.	4.3680
748	725.00	12695.	55450.	4.3680
747	725.00	12695.	55450.	4.3680
1366	725.00	12453.	55450.	4.4529
1365	725.00	12453.	55450.	4.4529
987	725.00	12453.	55450.	4.4529
988	725.00	12453.	55450.	4.4529
1461	725.00	12275.	55450.	4.5174
364	725.00	12273.	55450.	4.5179
532	725.00	12202.	55450.	4.5443
531	725.00	12202.	55450.	4.5443
1317	725.00	12202.	55450.	4.5443
1318	725.00	12202.	55450.	4.5443
1420	725.00	12167.	55450.	4.5575
1581	725.00	12167.	55450.	4.5576
1153	725.00	12116.	55450.	4.5766
984	725.00	12114.	55450.	4.5773
1271	725.00	12108.	55450.	4.5795
1203	725.00	12086.	55450.	4.5880
1204	725.00	12086.	55450.	4.5880
1390	725.00	12086.	55450.	4.5881
1389	725.00	12086.	55450.	4.5881
170	725.00	12085.	55450.	4.5883
801	725.00	12030.	55450.	4.6091
1600	725.00	12028.	55450.	4.6099
961	725.00	11961.	55450.	4.6360
1176	725.00	11961.	55450.	4.6360
1443	725.00	11950.	55450.	4.6402
1442	725.00	11950.	55450.	4.6402
383	725.00	11949.	55450.	4.6405
382	725.00	11949.	55450.	4.6405
1270	725.00	11904.	55450.	4.6581
1269	725.00	11904.	55450.	4.6581
171	725.00	11884.	55450.	4.6658
172	725.00	11884.	55450.	4.6658
1629	725.00	11861.	55450.	4.6751
1630	725.00	11861.	55450.	4.6751
1035	725.00	11860.	55450.	4.6752
1036	725.00	11860.	55450.	4.6752
802	725.00	11725.	55450.	4.7294
1599	725.00	11723.	55450.	4.7300
1206	725.00	11644.	55450.	4.7621
1387	725.00	11641.	55450.	4.7634
588	725.00	11441.	55450.	4.8467
13	725.00	11438.	55450.	4.8478
1294	725.00	11399.	55450.	4.8644
1293	725.00	11399.	55450.	4.8644

Table 3.AA.53 (continued)

339	725.00	11398.	55450.	4.8649
340	725.00	11398.	55450.	4.8649
721	725.00	11382.	55450.	4.8719
1152	725.00	11381.	55450.	4.8720
70	725.00	11305.	55450.	4.9048
71	725.00	11305.	55450.	4.9048
194	725.00	11296.	55450.	4.9090
195	725.00	11296.	55450.	4.9090
1397	725.00	11275.	55450.	4.9179
1412	725.00	11272.	55450.	4.9193
61	725.00	11133.	55450.	4.9805
204	725.00	11127.	55450.	4.9835
1129	725.00	10970.	55450.	5.0548
744	725.00	10968.	55450.	5.0556
579	725.00	10882.	55450.	5.0958
578	725.00	10882.	55450.	5.0958
22	725.00	10881.	55450.	5.0958
23	725.00	10881.	55450.	5.0958
1056	725.00	10835.	55450.	5.1175
1609	725.00	10833.	55450.	5.1185
587	725.00	10743.	55450.	5.1616
14	725.00	10740.	55450.	5.1628
1388	725.00	10733.	55450.	5.1665
1205	725.00	10732.	55450.	5.1669
1154	725.00	10676.	55450.	5.1938
983	725.00	10674.	55450.	5.1947
962	725.00	10611.	55450.	5.2255
1175	725.00	10611.	55450.	5.2256
723	725.00	10517.	55450.	5.2724
724	725.00	10517.	55450.	5.2724
1150	725.00	10517.	55450.	5.2725
1149	725.00	10517.	55450.	5.2725
62	725.00	10493.	55450.	5.2844
203	725.00	10456.	55450.	5.3033
1563	725.00	10330.	55450.	5.3681
1562	725.00	10330.	55450.	5.3681
1438	725.00	10328.	55450.	5.3690
1439	725.00	10328.	55450.	5.3690
963	725.00	10227.	55450.	5.4217
964	725.00	10227.	55450.	5.4217
1174	725.00	10227.	55450.	5.4219
1173	725.00	10227.	55450.	5.4219
84	725.00	10218.	55450.	5.4265
397	725.00	10216.	55450.	5.4279
722	725.00	10076.	55450.	5.5032
1151	725.00	10076.	55450.	5.5033
507	725.00	10052.	55450.	5.5165
508	725.00	10052.	55450.	5.5165
1125	725.00	10051.	55450.	5.5167
1126	725.00	10051.	55450.	5.5167
1179	725.00	9997.4	55450.	5.5465
1180	725.00	9997.4	55450.	5.5465
1198	725.00	9996.7	55450.	5.5468

Table 3.AA.53 (continued)

1197	725.00	9996.7	55450.	5.5468
1564	725.00	9989.2	55450.	5.5510
1437	725.00	9989.0	55450.	5.5511
1413	725.00	9970.9	55450.	5.5612
1414	725.00	9970.9	55450.	5.5612
1395	725.00	9970.2	55450.	5.5616
1396	725.00	9970.2	55450.	5.5616
933	725.00	9952.0	55450.	5.5718
934	725.00	9952.0	55450.	5.5718
700	725.00	9951.9	55450.	5.5718
699	725.00	9951.9	55450.	5.5718
505	725.00	9841.7	55450.	5.6342
1128	725.00	9841.2	55450.	5.6345
83	725.00	9690.4	55450.	5.7222
398	725.00	9687.8	55450.	5.7237
957	725.00	9654.4	55450.	5.7435
958	725.00	9654.4	55450.	5.7435
939	725.00	9654.4	55450.	5.7435
940	725.00	9654.4	55450.	5.7435
1130	725.00	9539.5	55450.	5.8127
743	725.00	9537.8	55450.	5.8137
482	725.00	9528.1	55450.	5.8196
483	725.00	9528.1	55450.	5.8196
911	725.00	9528.1	55450.	5.8196
910	725.00	9528.1	55450.	5.8196
935	725.00	9514.3	55450.	5.8281
698	725.00	9514.2	55450.	5.8281
506	725.00	9514.1	55450.	5.8282
1127	725.00	9514.1	55450.	5.8282
1101	725.00	9492.5	55450.	5.8415
1102	725.00	9492.5	55450.	5.8415
315	725.00	9491.8	55450.	5.8419
316	725.00	9491.8	55450.	5.8419
484	725.00	9459.4	55450.	5.8619
909	725.00	9459.4	55450.	5.8619
960	725.00	9398.3	55450.	5.9000
937	725.00	9398.1	55450.	5.9001
1155	725.00	9365.0	55450.	5.9210
1156	725.00	9365.0	55450.	5.9210
981	725.00	9364.7	55450.	5.9211
982	725.00	9364.7	55450.	5.9211
1455	725.00	9325.9	55450.	5.9458
370	725.00	9306.6	55450.	5.9582
46	725.00	9300.3	55450.	5.9622
47	725.00	9300.3	55450.	5.9622
818	725.00	9300.2	55450.	5.9622
819	725.00	9300.2	55450.	5.9622
1441	725.00	9248.5	55450.	5.9956
384	725.00	9246.7	55450.	5.9967
887	725.00	9199.3	55450.	6.0276
886	725.00	9199.3	55450.	6.0276
1055	725.00	9199.2	55450.	6.0277
1610	725.00	9197.3	55450.	6.0289

Table 3.AA.53 (continued)

291	725.00	9196.6	55450.	6.0294
290	725.00	9196.6	55450.	6.0294
1078	725.00	9146.6	55450.	6.0624
1079	725.00	9146.6	55450.	6.0624
147	725.00	9126.9	55450.	6.0755
146	725.00	9126.9	55450.	6.0755
1103	725.00	9111.0	55450.	6.0861
314	725.00	9108.6	55450.	6.0877
1032	725.00	9096.8	55450.	6.0956
1513	725.00	9094.8	55450.	6.0969
1077	725.00	9001.0	55450.	6.1604
693	725.00	9000.8	55450.	6.1606
694	725.00	9000.8	55450.	6.1606
676	725.00	9000.8	55450.	6.1606
675	725.00	9000.8	55450.	6.1606
862	725.00	8993.1	55450.	6.1658
863	725.00	8993.1	55450.	6.1658
148	725.00	8981.7	55450.	6.1737
122	725.00	8973.2	55450.	6.1795
123	725.00	8973.2	55450.	6.1795
885	725.00	8896.3	55450.	6.2329
292	725.00	8895.4	55450.	6.2336
313	725.00	8847.4	55450.	6.2674
1104	725.00	8844.9	55450.	6.2691
697	725.00	8819.4	55450.	6.2873
936	725.00	8819.4	55450.	6.2873
938	725.00	8801.0	55450.	6.3004
959	725.00	8801.0	55450.	6.3004
336	725.00	8795.7	55450.	6.3042
1081	725.00	8790.7	55450.	6.3078
1614	725.00	8768.8	55450.	6.3236
479	725.00	8766.1	55450.	6.3255
478	725.00	8766.1	55450.	6.3255
1051	725.00	8765.8	55450.	6.3257
650	725.00	8765.1	55450.	6.3262
651	725.00	8765.1	55450.	6.3262
406	725.00	8739.1	55450.	6.3450
407	725.00	8739.1	55450.	6.3450
74	725.00	8718.7	55450.	6.3599
75	725.00	8718.7	55450.	6.3599
1248	725.00	8688.7	55450.	6.3818
1537	725.00	8687.9	55450.	6.3824
717	725.00	8686.3	55450.	6.3836
718	725.00	8686.3	55450.	6.3836
915	725.00	8686.2	55450.	6.3837
916	725.00	8686.2	55450.	6.3837
454	725.00	8650.4	55450.	6.4101
455	725.00	8650.4	55450.	6.4101
434	725.00	8649.3	55450.	6.4109
435	725.00	8649.3	55450.	6.4109
1369	725.00	8628.8	55450.	6.4262
1224	725.00	8627.0	55450.	6.4275
26	725.00	8605.1	55450.	6.4439

Table 3.AA.53 (continued)

27	725.00	8605.1	55450.	6.4439
838	725.00	8604.5	55450.	6.4443
839	725.00	8604.5	55450.	6.4443
861	725.00	8582.3	55450.	6.4609
124	725.00	8562.5	55450.	6.4759
674	725.00	8558.2	55450.	6.4792
695	725.00	8558.2	55450.	6.4792
459	725.00	8498.4	55450.	6.5248
458	725.00	8498.4	55450.	6.5248
670	725.00	8498.3	55450.	6.5248
671	725.00	8498.3	55450.	6.5248
460	725.00	8480.6	55450.	6.5385
669	725.00	8480.5	55450.	6.5385
720	725.00	8414.5	55450.	6.5898
913	725.00	8414.3	55450.	6.5900
1245	725.00	8399.4	55450.	6.6017
1540	725.00	8398.6	55450.	6.6023
431	725.00	8398.3	55450.	6.6026
430	725.00	8398.3	55450.	6.6026
243	725.00	8393.3	55450.	6.6064
242	725.00	8393.3	55450.	6.6064
1221	725.00	8331.8	55450.	6.6552
1222	725.00	8331.8	55450.	6.6552
1371	725.00	8331.8	55450.	6.6552
1372	725.00	8331.8	55450.	6.6552
1131	725.00	8325.2	55450.	6.6605
1132	725.00	8325.2	55450.	6.6605
741	725.00	8325.0	55450.	6.6607
742	725.00	8325.0	55450.	6.6607
575	725.00	8201.2	55450.	6.7612
574	725.00	8201.2	55450.	6.7612
1466	725.00	8201.2	55450.	6.7612
1467	725.00	8201.2	55450.	6.7612
646	725.00	8194.5	55450.	6.7668
647	725.00	8194.5	55450.	6.7668
266	725.00	8191.8	55450.	6.7690
267	725.00	8191.8	55450.	6.7690
477	725.00	8177.2	55450.	6.7810
652	725.00	8176.5	55450.	6.7816
1030	725.00	8149.3	55450.	6.8043
1029	725.00	8149.3	55450.	6.8043
1515	725.00	8149.2	55450.	6.8043
1516	725.00	8149.2	55450.	6.8043
502	725.00	8074.7	55450.	6.8671
503	725.00	8074.7	55450.	6.8671
890	725.00	8074.0	55450.	6.8677
891	725.00	8074.0	55450.	6.8677
1560	725.00	8040.5	55450.	6.8963
1225	725.00	8038.0	55450.	6.8985
72	725.00	7995.5	55450.	6.9351
193	725.00	7977.0	55450.	6.9512
645	725.00	7968.7	55450.	6.9585
268	725.00	7968.0	55450.	6.9591

Table 3.AA.53 (continued)

696	725.00	7941.7	55450.	6.9821
673	725.00	7941.7	55450.	6.9822
914	725.00	7870.6	55450.	7.0452
719	725.00	7870.6	55450.	7.0452
501	725.00	7849.4	55450.	7.0642
892	725.00	7848.8	55450.	7.0647
622	725.00	7812.7	55450.	7.0974
623	725.00	7812.7	55450.	7.0974
166	725.00	7797.7	55450.	7.1111
167	725.00	7797.7	55450.	7.1111
1059	725.00	7794.5	55450.	7.1140
1058	725.00	7794.5	55450.	7.1140
98	725.00	7792.3	55450.	7.1160
99	725.00	7792.3	55450.	7.1160
1006	725.00	7787.7	55450.	7.1202
1005	725.00	7787.7	55450.	7.1202
1347	725.00	7787.4	55450.	7.1205
1348	725.00	7787.4	55450.	7.1205
1584	725.00	7769.5	55450.	7.1369
1417	725.00	7767.1	55450.	7.1391
1080	725.00	7761.9	55450.	7.1439
1031	725.00	7753.6	55450.	7.1515
1514	725.00	7751.8	55450.	7.1532
145	725.00	7742.8	55450.	7.1615
1539	725.00	7698.4	55450.	7.2028
1538	725.00	7698.4	55450.	7.2028
1247	725.00	7697.7	55450.	7.2034
1246	725.00	7697.7	55450.	7.2034
1007	725.00	7674.1	55450.	7.2256
1346	725.00	7673.0	55450.	7.2267
594	725.00	7628.9	55450.	7.2684
7	725.00	7628.2	55450.	7.2691
621	725.00	7623.7	55450.	7.2734
453	725.00	7617.0	55450.	7.2798
436	725.00	7616.3	55450.	7.2804
100	725.00	7603.5	55450.	7.2927
583	725.00	7595.6	55450.	7.3003
18	725.00	7594.9	55450.	7.3010
381	725.00	7534.6	55450.	7.3594
1444	725.00	7534.5	55450.	7.3594
837	725.00	7527.1	55450.	7.3667
28	725.00	7526.2	55450.	7.3676
69	725.00	7498.0	55450.	7.3954
196	725.00	7497.2	55450.	7.3961
526	725.00	7482.7	55450.	7.4104
525	725.00	7482.7	55450.	7.4104
593	725.00	7482.7	55450.	7.4104
1107	725.00	7482.5	55450.	7.4107
1108	725.00	7482.5	55450.	7.4107
8	725.00	7482.0	55450.	7.4111
1105	725.00	7446.3	55450.	7.4466
528	725.00	7443.9	55450.	7.4491
3	725.00	7437.7	55450.	7.4553

Table 3.AA.53 (continued)

2	725.00	7437.7	55450.	7.4553
598	725.00	7436.3	55450.	7.4567
599	725.00	7436.3	55450.	7.4567
790	725.00	7412.5	55450.	7.4806
789	725.00	7412.5	55450.	7.4806
1491	725.00	7412.5	55450.	7.4806
1492	725.00	7412.5	55450.	7.4806
335	725.00	7381.8	55450.	7.5117
1082	725.00	7377.1	55450.	7.5165
1223	725.00	7373.8	55450.	7.5199
1370	725.00	7372.6	55450.	7.5211
577	725.00	7346.1	55450.	7.5482
24	725.00	7345.3	55450.	7.5490
627	725.00	7321.8	55450.	7.5733
628	725.00	7321.8	55450.	7.5733
286	725.00	7321.2	55450.	7.5739
285	725.00	7321.2	55450.	7.5739
584	725.00	7315.9	55450.	7.5793
17	725.00	7315.3	55450.	7.5800
626	725.00	7303.5	55450.	7.5923
21	725.00	7300.6	55450.	7.5952
580	725.00	7300.0	55450.	7.5959
287	725.00	7298.1	55450.	7.5978
481	725.00	7260.0	55450.	7.6378
912	725.00	7259.8	55450.	7.6379
410	725.00	7248.5	55450.	7.6499
411	725.00	7248.5	55450.	7.6499
262	725.00	7242.3	55450.	7.6564
263	725.00	7242.3	55450.	7.6564
1613	725.00	7238.8	55450.	7.6601
1052	725.00	7235.9	55450.	7.6632
1440	725.00	7208.6	55450.	7.6922
1561	725.00	7205.0	55450.	7.6960
550	725.00	7160.0	55450.	7.7445
551	725.00	7160.0	55450.	7.7445
1298	725.00	7158.7	55450.	7.7458
1299	725.00	7158.7	55450.	7.7458
1266	725.00	7154.5	55450.	7.7504
175	725.00	7147.7	55450.	7.7578
429	725.00	7137.0	55450.	7.7694
244	725.00	7135.2	55450.	7.7713
156	725.00	7117.9	55450.	7.7902
1069	725.00	7117.5	55450.	7.7906
405	725.00	7112.3	55450.	7.7964
76	725.00	7091.7	55450.	7.8190
766	725.00	7026.6	55450.	7.8914
765	725.00	7026.6	55450.	7.8914
1324	725.00	7026.4	55450.	7.8917
1323	725.00	7026.4	55450.	7.8917
1060	725.00	6941.3	55450.	7.9884
165	725.00	6940.9	55450.	7.9889
867	725.00	6937.7	55450.	7.9925
868	725.00	6937.7	55450.	7.9925

Table 3.AA.53 (continued)

310	725.00	6937.2	55450.	7.9931
309	725.00	6937.2	55450.	7.9931
767	725.00	6923.6	55450.	8.0089
1322	725.00	6922.5	55450.	8.0101
55	725.00	6916.0	55450.	8.0176
210	725.00	6891.8	55450.	8.0458
1053	725.00	6886.9	55450.	8.0515
1054	725.00	6886.9	55450.	8.0515
1611	725.00	6886.6	55450.	8.0518
1612	725.00	6886.6	55450.	8.0518
142	725.00	6886.6	55450.	8.0518
143	725.00	6886.6	55450.	8.0518
842	725.00	6883.6	55450.	8.0554
843	725.00	6883.6	55450.	8.0554
66	725.00	6874.8	55450.	8.0657
1265	725.00	6851.5	55450.	8.0932
199	725.00	6850.7	55450.	8.0940
176	725.00	6844.9	55450.	8.1009
56	725.00	6826.8	55450.	8.1224
1490	725.00	6813.1	55450.	8.1387
791	725.00	6812.2	55450.	8.1398
209	725.00	6803.7	55450.	8.1499
412	725.00	6777.3	55450.	8.1817
261	725.00	6776.7	55450.	8.1824
155	725.00	6726.1	55450.	8.2440
1070	725.00	6725.8	55450.	8.2443
215	725.00	6647.1	55450.	8.3419
214	725.00	6647.1	55450.	8.3419
190	725.00	6634.2	55450.	8.3581
191	725.00	6634.2	55450.	8.3581
1251	725.00	6631.7	55450.	8.3614
1250	725.00	6631.7	55450.	8.3614
51	725.00	6621.8	55450.	8.3738
50	725.00	6621.8	55450.	8.3738
65	725.00	6620.7	55450.	8.3752
1274	725.00	6615.6	55450.	8.3817
1275	725.00	6615.6	55450.	8.3817
358	725.00	6613.9	55450.	8.3839
359	725.00	6613.9	55450.	8.3839
200	725.00	6598.3	55450.	8.4037
573	725.00	6515.1	55450.	8.5110
1468	725.00	6514.6	55450.	8.5116
866	725.00	6502.0	55450.	8.5282
311	725.00	6497.6	55450.	8.5340
457	725.00	6450.8	55450.	8.5958
672	725.00	6450.8	55450.	8.5958
527	725.00	6410.6	55450.	8.6497
1106	725.00	6409.5	55450.	8.6512
549	725.00	6391.7	55450.	8.6754
1300	725.00	6391.2	55450.	8.6760
118	725.00	6328.4	55450.	8.7621
119	725.00	6328.4	55450.	8.7621
603	725.00	6324.5	55450.	8.7676

Table 3.AA.53 (continued)

602	725.00	6324.5	55450.	8.7676
219	725.00	6299.4	55450.	8.8024
218	725.00	6299.4	55450.	8.8024
239	725.00	6293.4	55450.	8.8108
238	725.00	6293.4	55450.	8.8108
95	725.00	6254.6	55450.	8.8655
94	725.00	6254.6	55450.	8.8655
387	725.00	6250.2	55450.	8.8717
386	725.00	6250.2	55450.	8.8717
589	725.00	6212.8	55450.	8.9252
12	725.00	6212.4	55450.	8.9257
1083	725.00	6202.4	55450.	8.9401
1084	725.00	6202.4	55450.	8.9401
334	725.00	6201.9	55450.	8.9408
333	725.00	6201.9	55450.	8.9408
289	725.00	6197.4	55450.	8.9473
888	725.00	6194.3	55450.	8.9518
1276	725.00	6143.3	55450.	9.0261
357	725.00	6143.1	55450.	9.0264
45	725.00	6121.9	55450.	9.0577
820	725.00	6121.3	55450.	9.0585
816	725.00	6105.0	55450.	9.0827
1585	725.00	6101.9	55450.	9.0874
844	725.00	6101.7	55450.	9.0877
141	725.00	6101.2	55450.	9.0884
220	725.00	6038.9	55450.	9.1821
237	725.00	6037.4	55450.	9.1843
1345	725.00	6011.1	55450.	9.2246
1008	725.00	6009.7	55450.	9.2268
604	725.00	5923.2	55450.	9.3615
117	725.00	5922.7	55450.	9.3624
597	725.00	5914.0	55450.	9.3760
4	725.00	5913.5	55450.	9.3769
792	725.00	5718.0	55450.	9.6974
1489	725.00	5716.1	55450.	9.7007
864	725.00	5716.0	55450.	9.7008
121	725.00	5696.4	55450.	9.7342
590	725.00	5648.1	55450.	9.8175
11	725.00	5647.8	55450.	9.8181
151	725.00	5641.4	55450.	9.8291
152	725.00	5641.4	55450.	9.8291
1073	725.00	5640.3	55450.	9.8311
1074	725.00	5640.3	55450.	9.8311
312	725.00	5621.9	55450.	9.8632
865	725.00	5613.1	55450.	9.8786
592	725.00	5611.1	55450.	9.8822
9	725.00	5610.7	55450.	9.8829
213	725.00	5580.6	55450.	9.9361
52	725.00	5554.6	55450.	9.9827
57	725.00	5481.9	55450.	10.115
265	725.00	5481.6	55450.	10.116
648	725.00	5478.1	55450.	10.122
208	725.00	5469.0	55450.	10.139

Table 3.AA.53 (continued)

1588	725.00	5458.9	55450.	10.158
1587	725.00	5458.9	55450.	10.158
813	725.00	5458.5	55450.	10.159
814	725.00	5458.5	55450.	10.159
153	725.00	5417.2	55450.	10.236
1072	725.00	5416.9	55450.	10.236
1321	725.00	5366.2	55450.	10.333
768	725.00	5364.8	55450.	10.336
817	725.00	5362.2	55450.	10.341
48	725.00	5361.7	55450.	10.342
82	725.00	5335.1	55450.	10.393
388	725.00	5334.5	55450.	10.395
93	725.00	5333.6	55450.	10.396
399	725.00	5333.4	55450.	10.397
624	725.00	5280.1	55450.	10.502
97	725.00	5260.5	55450.	10.541
889	725.00	5185.1	55450.	10.694
504	725.00	5184.3	55450.	10.696
288	725.00	5064.8	55450.	10.948
625	725.00	5054.2	55450.	10.971
1252	725.00	4915.6	55450.	11.280
189	725.00	4915.5	55450.	11.281
586	725.00	4817.5	55450.	11.510
15	725.00	4815.7	55450.	11.514
63	725.00	4804.0	55450.	11.542
829	725.00	4784.5	55450.	11.590
36	725.00	4783.9	55450.	11.591
202	725.00	4781.7	55450.	11.596
649	725.00	4755.3	55450.	11.661
480	725.00	4754.0	55450.	11.664
815	725.00	4740.5	55450.	11.697
1586	725.00	4737.5	55450.	11.705
60	725.00	4704.9	55450.	11.786
205	725.00	4686.2	55450.	11.833
1264	725.00	4573.9	55450.	12.123
177	725.00	4570.0	55450.	12.133
830	725.00	4453.8	55450.	12.450
35	725.00	4453.3	55450.	12.451
1071	725.00	4253.0	55450.	13.038
154	725.00	4252.4	55450.	13.040
16	725.00	4212.6	55450.	13.163
585	725.00	4212.4	55450.	13.164
59	725.00	4197.3	55450.	13.211
206	725.00	4179.7	55450.	13.266
64	725.00	3768.4	55450.	14.715
201	725.00	3761.4	55450.	14.742
240	725.00	3751.3	55450.	14.782
601	725.00	3740.8	55450.	14.823
217	725.00	3739.6	55450.	14.828
120	725.00	3731.8	55450.	14.859
1263	725.00	3724.6	55450.	14.887
1262	725.00	3724.6	55450.	14.887
179	725.00	3720.9	55450.	14.902

Table 3.AA.53 (continued)

178	725.00	3720.9	55450.	14.902
180	725.00	3504.5	55450.	15.822
1261	725.00	3500.2	55450.	15.842
264	725.00	3420.6	55450.	16.210
409	725.00	3408.3	55450.	16.269
433	725.00	3280.3	55450.	16.904
456	725.00	3278.8	55450.	16.912
408	725.00	3249.0	55450.	17.067
73	725.00	3228.7	55450.	17.174
58	725.00	3196.4	55450.	17.348
207	725.00	3193.7	55450.	17.362
591	725.00	2798.9	55450.	19.811
10	725.00	2798.8	55450.	19.812
1465	725.00	2770.8	55450.	20.013
576	725.00	2770.3	55450.	20.016
1297	725.00	2740.2	55450.	20.236
552	725.00	2738.5	55450.	20.248
402	725.00	2701.4	55450.	20.527
79	725.00	2700.9	55450.	20.530
401	725.00	2597.4	55450.	21.349
80	725.00	2596.8	55450.	21.353
25	725.00	2567.0	55450.	21.601
840	725.00	2565.0	55450.	21.618
432	725.00	2542.6	55450.	21.808
241	725.00	2534.5	55450.	21.878
360	725.00	2164.2	55450.	25.622
1273	725.00	2160.5	55450.	25.665
841	725.00	2028.1	55450.	27.340
144	725.00	2021.2	55450.	27.434
385	725.00	1996.6	55450.	27.772
96	725.00	1986.3	55450.	27.917
831	725.00	1921.2	55450.	28.862
34	725.00	1920.9	55450.	28.866
81	725.00	1920.4	55450.	28.874
400	725.00	1919.5	55450.	28.888
1	725.00	1845.0	55450.	30.055
600	725.00	1841.6	55450.	30.110
216	725.00	1578.6	55450.	35.126
49	725.00	1561.6	55450.	35.509
168	725.00	1537.5	55450.	36.064
1057	725.00	1530.8	55450.	36.222
192	725.00	1236.0	55450.	44.862
1249	725.00	1230.8	55450.	45.052
832	725.00	882.18	55450.	62.856
833	725.00	882.18	55450.	62.856
33	725.00	882.05	55450.	62.865
32	725.00	882.05	55450.	62.865
834	725.00	542.12	55450.	102.28
31	725.00	541.76	55450.	102.35

Table 3.AA.54

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Enclosure Vessel
SUBTITLE 2 =
Load Combination: E3.c (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1864	450.00	6091.9	43450.	7.1324
1865	450.00	6091.6	43450.	7.1327
1863	450.00	6091.5	43450.	7.1329
1866	450.00	6090.8	43450.	7.1337
1862	450.00	6090.5	43450.	7.1341
1861	450.00	6088.9	43450.	7.1360
1869	450.00	6055.6	43450.	7.1752
1858	450.00	6049.8	43450.	7.1820
1870	450.00	6043.8	43450.	7.1892
1857	450.00	6036.6	43450.	7.1977
1871	450.00	6031.1	43450.	7.2044
1856	450.00	6022.5	43450.	7.2147
1872	450.00	5971.7	43450.	7.2760
1855	450.00	5962.2	43450.	7.2876
1873	450.00	5955.0	43450.	7.2964
1874	450.00	5948.8	43450.	7.3040
1854	450.00	5944.2	43450.	7.3096
1853	450.00	5939.9	43450.	7.3150
1875	450.00	5934.2	43450.	7.3219
1852	450.00	5924.6	43450.	7.3338
1876	450.00	5919.5	43450.	7.3402
1851	450.00	5909.4	43450.	7.3526
1877	450.00	5904.8	43450.	7.3584
1850	450.00	5894.1	43450.	7.3717
1878	450.00	5890.0	43450.	7.3770
1849	450.00	5878.7	43450.	7.3911
1879	450.00	5874.4	43450.	7.3965
1867	450.00	5867.6	43450.	7.4051
1860	450.00	5865.2	43450.	7.4080
1848	450.00	5858.0	43450.	7.4173
1880	450.00	5853.9	43450.	7.4224
1847	450.00	5836.3	43450.	7.4448
1881	450.00	5833.3	43450.	7.4486
1846	450.00	5814.7	43450.	7.4724
1882	450.00	5812.9	43450.	7.4747
1868	450.00	5799.7	43450.	7.4918
1859	450.00	5796.6	43450.	7.4957
1845	450.00	5793.3	43450.	7.5001
1883	450.00	5792.8	43450.	7.5007

Table 3.AA.54 (continued)

1884	450.00	5773.1	43450.	7.5263
1844	450.00	5772.2	43450.	7.5275
1885	450.00	5753.9	43450.	7.5514
1843	450.00	5751.6	43450.	7.5545
1886	450.00	5735.5	43450.	7.5757
1842	450.00	5731.5	43450.	7.5809
1747	450.00	5725.0	43450.	7.5895
1737	450.00	5717.0	43450.	7.6002
1841	450.00	5712.3	43450.	7.6064
1830	450.00	5705.6	43450.	7.6153
1738	450.00	5704.6	43450.	7.6166
1840	450.00	5699.6	43450.	7.6233
1739	450.00	5692.9	43450.	7.6323
1839	450.00	5686.9	43450.	7.6403
1838	450.00	5674.8	43450.	7.6566
1740	450.00	5403.7	43450.	8.0407
1741	450.00	5390.4	43450.	8.0607
1837	450.00	5384.9	43450.	8.0689
1836	450.00	5371.2	43450.	8.0895
1742	450.00	5317.9	43450.	8.1706
1743	450.00	5292.1	43450.	8.2104
1835	450.00	5291.9	43450.	8.2107
1834	450.00	5265.6	43450.	8.2517
1744	450.00	5233.8	43450.	8.3017
1745	450.00	5207.0	43450.	8.3446
1833	450.00	5205.8	43450.	8.3464
1746	450.00	5183.2	43450.	8.3828
1832	450.00	5178.5	43450.	8.3904
1831	450.00	5154.5	43450.	8.4295
1748	450.00	5134.2	43450.	8.4629
1829	450.00	5115.3	43450.	8.4941
1754	450.00	4971.5	43450.	8.7398
1823	450.00	4952.6	43450.	8.7732
1804	450.00	-4640.5	43450.	9.3632
1773	450.00	-4630.2	43450.	9.3841
1805	450.00	-4612.2	43450.	9.4206
1772	450.00	-4600.8	43450.	9.4440
1806	450.00	-4594.1	43450.	9.4578
1807	450.00	-4592.8	43450.	9.4604
1808	450.00	-4582.0	43450.	9.4828
1771	450.00	-4581.6	43450.	9.4836
1770	450.00	-4579.3	43450.	9.4883
1769	450.00	-4567.5	43450.	9.5128
1809	450.00	-4550.0	43450.	9.5495
1768	450.00	-4534.6	43450.	9.5819
1810	450.00	-4530.1	43450.	9.5913
1811	450.00	-4524.8	43450.	9.6027
1767	450.00	-4513.9	43450.	9.6258
1766	450.00	-4507.7	43450.	9.6391
1799	450.00	-4257.0	43450.	10.207
1778	450.00	-4254.3	43450.	10.213
1800	450.00	-4237.1	43450.	10.255
1777	450.00	-4233.7	43450.	10.263

Table 3.AA.54 (continued)

1792	450.00	3937.1	43450.	11.036
1785	450.00	3936.1	43450.	11.039
1793	450.00	3841.9	43450.	11.310
1784	450.00	3841.3	43450.	11.311
1755	450.00	3835.9	43450.	11.327
1801	450.00	-3822.8	43450.	11.366
1822	450.00	3819.4	43450.	11.376
1776	450.00	-3818.9	43450.	11.378
1803	450.00	-3816.7	43450.	11.384
1774	450.00	-3811.6	43450.	11.399
1802	450.00	-3810.6	43450.	11.402
1775	450.00	-3806.0	43450.	11.416
1812	450.00	-3690.8	43450.	11.773
1765	450.00	-3679.6	43450.	11.808
1813	450.00	-3662.9	43450.	11.862
1764	450.00	-3651.3	43450.	11.900
1814	450.00	-3648.2	43450.	11.910
1763	450.00	-3636.3	43450.	11.949
1815	450.00	-3632.0	43450.	11.963
1816	450.00	-3628.7	43450.	11.974
1762	450.00	-3619.3	43450.	12.005
1761	450.00	-3615.7	43450.	12.017
1749	450.00	3600.5	43450.	12.068
1750	450.00	3583.4	43450.	12.125
1828	450.00	3575.6	43450.	12.152
1827	450.00	3558.4	43450.	12.211
1751	450.00	3557.0	43450.	12.215
1826	450.00	3532.0	43450.	12.302
1752	450.00	3531.4	43450.	12.304
1753	450.00	3509.6	43450.	12.380
1825	450.00	3506.4	43450.	12.392
1824	450.00	3484.6	43450.	12.469
1756	450.00	1403.4	43450.	30.962
1757	450.00	1385.7	43450.	31.356
1821	450.00	1380.6	43450.	31.472
1820	450.00	1363.2	43450.	31.873
1758	450.00	1356.5	43450.	32.031
1819	450.00	1334.4	43450.	32.561
1759	450.00	1062.9	43450.	40.877
1760	450.00	1044.3	43450.	41.606
1818	450.00	1042.5	43450.	41.679
1817	450.00	1024.3	43450.	42.417
1781	450.00	641.78	43450.	67.703
1796	450.00	639.47	43450.	67.947
1782	450.00	634.94	43450.	68.432
1795	450.00	634.03	43450.	68.530
1794	450.00	625.23	43450.	69.495
1783	450.00	624.73	43450.	69.550
1779	450.00	422.20	43450.	102.91
1798	450.00	417.68	43450.	104.03
1780	450.00	408.27	43450.	106.42
1797	450.00	405.00	43450.	107.28
1790	450.00	82.031	43450.	529.68

Table 3.AA.54 (continued)

1789	450.00	79.782	43450.	544.61
1791	450.00	78.157	43450.	555.93
1787	450.00	76.916	43450.	564.90
1788	450.00	73.908	43450.	587.89
1786	450.00	73.799	43450.	588.76

Table 3.AA.55

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Enclosure Vessel
SUBTITLE 2 =
Load Combination: E3.c (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1866	450.00	23726.	65200.	2.7480
1861	450.00	23726.	65200.	2.7481
1865	450.00	23589.	65200.	2.7640
1862	450.00	23588.	65200.	2.7641
1864	450.00	23507.	65200.	2.7737
1863	450.00	23507.	65200.	2.7737
1867	450.00	23505.	65200.	2.7739
1860	450.00	23505.	65200.	2.7739
1869	450.00	21748.	65200.	2.9980
1858	450.00	21747.	65200.	2.9981
1868	450.00	21489.	65200.	3.0342
1859	450.00	21488.	65200.	3.0343
1870	450.00	19201.	65200.	3.3956
1857	450.00	19200.	65200.	3.3957
1845	450.00	18793.	65200.	3.4693
1882	450.00	18793.	65200.	3.4693
1844	450.00	18793.	65200.	3.4694
1883	450.00	18793.	65200.	3.4694
1884	450.00	18709.	65200.	3.4850
1843	450.00	18708.	65200.	3.4851
1846	450.00	18336.	65200.	3.5559
1881	450.00	18336.	65200.	3.5559
1885	450.00	18043.	65200.	3.6137
1842	450.00	18042.	65200.	3.6138
1847	450.00	17373.	65200.	3.7530
1880	450.00	17372.	65200.	3.7531
1871	450.00	16819.	65200.	3.8767
1856	450.00	16818.	65200.	3.8769
1886	450.00	16756.	65200.	3.8911
1841	450.00	16755.	65200.	3.8913
1848	450.00	15941.	65200.	4.0900
1879	450.00	15941.	65200.	4.0901
1737	450.00	14809.	65200.	4.4028
1840	450.00	14808.	65200.	4.4030
1849	450.00	14077.	65200.	4.6316
1878	450.00	14076.	65200.	4.6318
1769	450.00	13996.	65200.	4.6584
1808	450.00	13990.	65200.	4.6605
1770	450.00	13987.	65200.	4.6614

Table 3.AA.55 (continued)

1807	450.00	13981.	65200.	4.6634
1773	450.00	13581.	65200.	4.8007
1804	450.00	13575.	65200.	4.8029
1766	450.00	13344.	65200.	4.8859
1811	450.00	13339.	65200.	4.8881
1872	450.00	13143.	65200.	4.9609
1855	450.00	13142.	65200.	4.9612
1738	450.00	12960.	65200.	5.0308
1839	450.00	12959.	65200.	5.0313
1774	450.00	12746.	65200.	5.1152
1803	450.00	12740.	65200.	5.1177
1765	450.00	12534.	65200.	5.2020
1812	450.00	12528.	65200.	5.2045
1850	450.00	12475.	65200.	5.2266
1877	450.00	12474.	65200.	5.2270
1778	450.00	12403.	65200.	5.2566
1799	450.00	12398.	65200.	5.2590
1761	450.00	11539.	65200.	5.6503
1816	450.00	11532.	65200.	5.6539
1739	450.00	10728.	65200.	6.0774
1838	450.00	10727.	65200.	6.0783
1851	450.00	10676.	65200.	6.1072
1876	450.00	10675.	65200.	6.1077
1873	450.00	10080.	65200.	6.4682
1854	450.00	10079.	65200.	6.4688
1747	450.00	9320.7	65200.	6.9952
1830	450.00	9319.8	65200.	6.9959
1771	450.00	9296.1	65200.	7.0137
1806	450.00	9289.9	65200.	7.0184
1768	450.00	9268.2	65200.	7.0348
1809	450.00	9262.0	65200.	7.0395
1748	450.00	8847.3	65200.	7.3695
1829	450.00	8845.8	65200.	7.3707
1746	450.00	8750.2	65200.	7.4513
1831	450.00	8749.3	65200.	7.4520
1852	450.00	8694.1	65200.	7.4994
1875	450.00	8693.1	65200.	7.5002
1755	450.00	8640.3	65200.	7.5460
1822	450.00	8627.5	65200.	7.5572
1772	450.00	8466.0	65200.	7.7014
1805	450.00	8459.8	65200.	7.7070
1767	450.00	8316.1	65200.	7.8402
1810	450.00	8310.1	65200.	7.8459
1754	450.00	8215.2	65200.	7.9365
1823	450.00	8209.0	65200.	7.9425
1775	450.00	7898.4	65200.	8.2549
1802	450.00	7892.1	65200.	8.2614
1740	450.00	7820.5	65200.	8.3371
1837	450.00	7818.7	65200.	8.3389
1874	450.00	7789.1	65200.	8.3707
1853	450.00	7788.0	65200.	8.3718
1764	450.00	7654.4	65200.	8.5180
1813	450.00	7648.2	65200.	8.5249

Table 3.AA.55 (continued)

1780	450.00	7521.6	65200.	8.6684
1797	450.00	7515.8	65200.	8.6751
1749	450.00	7332.6	65200.	8.8917
1828	450.00	7331.4	65200.	8.8933
1776	450.00	6832.2	65200.	9.5430
1801	450.00	6826.0	65200.	9.5517
1756	450.00	6814.1	65200.	9.5684
1821	450.00	6792.6	65200.	9.5987
1779	450.00	6761.6	65200.	9.6427
1798	450.00	6755.6	65200.	9.6513
1753	450.00	6727.9	65200.	9.6909
1824	450.00	6722.0	65200.	9.6994
1759	450.00	6707.0	65200.	9.7213
1818	450.00	6700.2	65200.	9.7310
1741	450.00	6551.2	65200.	9.9523
1836	450.00	6551.1	65200.	9.9525
1792	450.00	6549.3	65200.	9.9553
1785	450.00	6546.4	65200.	9.9597
1763	450.00	6526.6	65200.	9.9898
1814	450.00	6520.4	65200.	9.9993
1777	450.00	6453.3	65200.	10.103
1800	450.00	6447.2	65200.	10.113
1745	450.00	6137.0	65200.	10.624
1832	450.00	6136.5	65200.	10.625
1742	450.00	5939.7	65200.	10.977
1835	450.00	5939.5	65200.	10.977
1786	450.00	5932.6	65200.	10.990
1791	450.00	5925.9	65200.	11.003
1743	450.00	5847.2	65200.	11.151
1834	450.00	5847.2	65200.	11.151
1762	450.00	5781.6	65200.	11.277
1815	450.00	5775.3	65200.	11.290
1760	450.00	5760.2	65200.	11.319
1817	450.00	5754.0	65200.	11.331
1787	450.00	5595.4	65200.	11.653
1790	450.00	5589.2	65200.	11.665
1744	450.00	5410.0	65200.	12.052
1833	450.00	5410.0	65200.	12.052
1750	450.00	5258.9	65200.	12.398
1827	450.00	5258.9	65200.	12.398
1793	450.00	4931.3	65200.	13.222
1784	450.00	4928.8	65200.	13.228
1757	450.00	4714.8	65200.	13.829
1820	450.00	4702.6	65200.	13.865
1788	450.00	4673.6	65200.	13.951
1789	450.00	4667.6	65200.	13.969
1783	450.00	4654.3	65200.	14.009
1782	450.00	4651.2	65200.	14.018
1794	450.00	4648.0	65200.	14.028
1795	450.00	4645.0	65200.	14.037
1781	450.00	4563.2	65200.	14.288
1826	450.00	4562.7	65200.	14.290
1751	450.00	4562.1	65200.	14.292

Table 3.AA.55 (continued)

1796	450.00	4556.9	65200.	14.308
1752	450.00	4037.3	65200.	16.150
1825	450.00	4035.4	65200.	16.157
1758	450.00	3909.5	65200.	16.677
1819	450.00	3902.0	65200.	16.709

Table 3.AA.56

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E3.c (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Membrane (PM)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PM	PREVIOUS ALLOW	PREVIOUS SF
1644	450.00	-5000.3	43450.	8.6895
1699	450.00	-4999.9	43450.	8.6901
1645	450.00	-4998.2	43450.	8.6931
1700	450.00	-4997.9	43450.	8.6937
1646	450.00	-4981.5	43450.	8.7223
1701	450.00	-4981.2	43450.	8.7229
1647	450.00	-4964.7	43450.	8.7517
1702	450.00	-4964.4	43450.	8.7523
1648	450.00	-4798.0	43450.	9.0559
1703	450.00	-4797.6	43450.	9.0565
1710	450.00	-4675.1	43450.	9.2938
1633	450.00	-4674.5	43450.	9.2951
1711	450.00	-4673.1	43450.	9.2979
1634	450.00	-4672.4	43450.	9.2992
1712	450.00	-4656.4	43450.	9.3313
1635	450.00	-4655.7	43450.	9.3326
1713	450.00	-4639.6	43450.	9.3650
1636	450.00	-4639.0	43450.	9.3663
1714	450.00	-4474.4	43450.	9.7108
1637	450.00	-4473.8	43450.	9.7121
1658	450.00	-3385.5	43450.	12.834
1691	450.00	-3385.5	43450.	12.834
1682	450.00	-3381.3	43450.	12.850
1671	450.00	-3381.3	43450.	12.850
1659	450.00	-3370.9	43450.	12.890
1692	450.00	-3370.9	43450.	12.890
1657	450.00	-3368.7	43450.	12.898
1690	450.00	-3368.7	43450.	12.898
1656	450.00	-3352.0	43450.	12.962
1689	450.00	-3352.0	43450.	12.962
1696	450.00	-3347.8	43450.	12.979
1663	450.00	-3347.8	43450.	12.979
1660	450.00	-3340.9	43450.	13.006
1693	450.00	-3340.9	43450.	13.006
1662	450.00	-3340.0	43450.	13.009
1695	450.00	-3340.0	43450.	13.009
1655	450.00	-3335.3	43450.	13.027
1688	450.00	-3335.3	43450.	13.027
1681	450.00	-3333.4	43450.	13.035

Table 3.AA.56 (continued)

1670	450.00	-3333.4	43450.	13.035
1661	450.00	-3330.9	43450.	13.045
1694	450.00	-3330.9	43450.	13.045
1697	450.00	-3319.7	43450.	13.088
1664	450.00	-3319.7	43450.	13.088
1680	450.00	-3319.6	43450.	13.089
1669	450.00	-3319.6	43450.	13.089
1679	450.00	-3302.9	43450.	13.155
1668	450.00	-3302.9	43450.	13.155
1698	450.00	-3291.7	43450.	13.200
1665	450.00	-3291.7	43450.	13.200
1678	450.00	-3286.1	43450.	13.222
1667	450.00	-3286.1	43450.	13.222
1677	450.00	-3269.4	43450.	13.290
1666	450.00	-3269.4	43450.	13.290
1649	450.00	-2448.2	43450.	17.748
1704	450.00	-2448.1	43450.	17.749
1654	450.00	-2380.8	43450.	18.250
1709	450.00	-2380.7	43450.	18.251
1653	450.00	-2378.1	43450.	18.271
1708	450.00	-2377.9	43450.	18.272
1652	450.00	-2350.0	43450.	18.489
1707	450.00	-2349.9	43450.	18.490
1715	450.00	-2251.0	43450.	19.303
1638	450.00	-2250.7	43450.	19.306
1651	450.00	-2116.6	43450.	20.528
1706	450.00	-2116.5	43450.	20.529
1720	450.00	-2036.1	43450.	21.340
1643	450.00	-2035.8	43450.	21.343
1719	450.00	-2035.1	43450.	21.351
1642	450.00	-2034.8	43450.	21.354
1718	450.00	-2024.9	43450.	21.458
1641	450.00	-2024.6	43450.	21.461
1717	450.00	-1827.9	43450.	23.771
1640	450.00	-1827.6	43450.	23.774
1650	450.00	-1222.0	43450.	35.556
1705	450.00	-1221.9	43450.	35.558
1716	450.00	-1049.7	43450.	41.391
1639	450.00	-1049.6	43450.	41.397
1674	450.00	-54.229	43450.	801.23
1685	450.00	-54.228	43450.	801.24
1673	450.00	-52.185	43450.	832.62
1684	450.00	-52.184	43450.	832.63
1675	450.00	-44.023	43450.	986.98
1686	450.00	-44.022	43450.	987.00
1676	450.00	-33.817	43450.	1284.9
1687	450.00	-33.816	43450.	1284.9
1683	450.00	-31.284	43450.	1388.9
1672	450.00	-31.284	43450.	1388.9

Table 3.AA.57

TITLE=
MPC-68 Structural Analysis

SUBTITLE 1 =
Component: Basket Supports
SUBTITLE 2 =
Load Combination: E3.c (See Table 3.1.4)
SUBTITLE 3 =
Stress Result: Primary Local Plus Primary Bending (PL+PB)

PRINT ELEMENT TABLE ITEMS PER ELEMENT

STAT ELEM	CURRENT REF TEMP	MIXED PL+PB	PREVIOUS ALLOW	PREVIOUS SF
1649	450.00	43116.	65200.	1.5122
1704	450.00	43113.	65200.	1.5123
1650	450.00	41884.	65200.	1.5567
1705	450.00	41881.	65200.	1.5568
1715	450.00	40067.	65200.	1.6273
1638	450.00	40061.	65200.	1.6275
1716	450.00	38875.	65200.	1.6772
1639	450.00	38870.	65200.	1.6774
1647	450.00	33748.	65200.	1.9320
1702	450.00	33746.	65200.	1.9321
1648	450.00	33598.	65200.	1.9406
1703	450.00	33596.	65200.	1.9407
1713	450.00	32212.	65200.	2.0241
1636	450.00	32208.	65200.	2.0244
1714	450.00	32064.	65200.	2.0334
1637	450.00	32059.	65200.	2.0337
1710	450.00	27580.	65200.	2.3640
1633	450.00	27576.	65200.	2.3644
1644	450.00	27446.	65200.	2.3756
1699	450.00	27444.	65200.	2.3758
1645	450.00	25520.	65200.	2.5548
1700	450.00	25519.	65200.	2.5550
1711	450.00	25506.	65200.	2.5563
1634	450.00	25502.	65200.	2.5567
1651	450.00	24816.	65200.	2.6273
1706	450.00	24814.	65200.	2.6275
1717	450.00	23932.	65200.	2.7244
1640	450.00	23929.	65200.	2.7248
1720	450.00	19603.	65200.	3.3261
1643	450.00	19601.	65200.	3.3264
1654	450.00	18993.	65200.	3.4328
1709	450.00	18991.	65200.	3.4331
1719	450.00	18047.	65200.	3.6129
1642	450.00	18045.	65200.	3.6133
1653	450.00	17634.	65200.	3.6974
1708	450.00	17632.	65200.	3.6978
1646	450.00	16839.	65200.	3.8720
1701	450.00	16838.	65200.	3.8722
1712	450.00	16574.	65200.	3.9340

Table 3.AA.57 (continued)

1635	450.00	16571.	65200.	3.9345
1718	450.00	15837.	65200.	4.1169
1641	450.00	15835.	65200.	4.1174
1652	450.00	15749.	65200.	4.1401
1707	450.00	15747.	65200.	4.1404
1698	450.00	4417.8	65200.	14.758
1665	450.00	4417.2	65200.	14.760
1697	450.00	4131.7	65200.	15.780
1664	450.00	4131.1	65200.	15.783
1682	450.00	2866.4	65200.	22.747
1671	450.00	2866.3	65200.	22.747
1679	450.00	2777.8	65200.	23.472
1668	450.00	2777.8	65200.	23.472
1672	450.00	2716.1	65200.	24.005
1683	450.00	2716.1	65200.	24.005
1658	450.00	2703.6	65200.	24.116
1691	450.00	2703.5	65200.	24.117
1685	450.00	2559.6	65200.	25.473
1674	450.00	2559.5	65200.	25.473
1684	450.00	2557.0	65200.	25.498
1673	450.00	2557.0	65200.	25.498
1681	450.00	2478.1	65200.	26.310
1670	450.00	2478.1	65200.	26.310
1680	450.00	2473.5	65200.	26.359
1669	450.00	2473.5	65200.	26.359
1675	450.00	2358.5	65200.	27.645
1686	450.00	2358.4	65200.	27.646
1659	450.00	2259.8	65200.	28.852
1692	450.00	2259.5	65200.	28.856
1676	450.00	2157.8	65200.	30.216
1687	450.00	2157.7	65200.	30.218
1662	450.00	2014.0	65200.	32.374
1695	450.00	2013.8	65200.	32.377
1657	450.00	1975.2	65200.	33.010
1690	450.00	1974.8	65200.	33.016
1660	450.00	1917.3	65200.	34.006
1693	450.00	1917.1	65200.	34.011
1661	450.00	1911.1	65200.	34.116
1694	450.00	1910.9	65200.	34.121
1663	450.00	1852.1	65200.	35.203
1696	450.00	1851.9	65200.	35.208
1656	450.00	1731.9	65200.	37.646
1655	450.00	1731.9	65200.	37.646
1689	450.00	1731.3	65200.	37.659
1688	450.00	1731.3	65200.	37.659
1678	450.00	1696.9	65200.	38.423
1667	450.00	1696.9	65200.	38.424
1666	450.00	1637.9	65200.	39.808
1677	450.00	1637.9	65200.	39.808

Appendix 3.AB - ANSYS Finite Element Results for the Overpack

One hundred (100) pages total including cover page

The notation used for the column headings in Appendix 3.AB is as follows:

ELEM:	Element number
NODE:	Node number
LANDSTAT:	Status of seal (0 = closed, 1 = open)
STOTAL:	Compressive force in seal (lb)
SEXT:	Absolute maximum combined stress/primary membrane plus primary bending stress (psi)
S1, S2, S3:	Principal stress (psi)
SINT:	Stress intensity (psi)
SEQV:	Equivalent stress (psi) (not used for any calculation of safety factors or margins)

LIST OF TABLES

Load Combinations

Table 3.AB.1	Overpack Internal Pressure
Table 3.AB.2	Overpack Accident Internal Pressure
Table 3.AB.3	Overpack Accident External Pressure
Table 3.AB.4	Overpack Handling Load
Table 3.AB.5	Overpack End Drop
Table 3.AB.6	Overpack Side Drop
Table 3.AB.7	Overpack Thermal Load

Individual Loads

Table 3.AB.8	Dead Weight
Table 3.AB.9	Bolt Preload
Table 3.AB.10	External Pressure (300 psi)
Table 3.AB.11	Internal Pressure (100 psi)
Table 3.AB.12	Temperature
Table 3.AB.13	Vertical Drop
Table 3.AB.14	Side Drop

Table 3.AB.1

LANDS

Total compressive force = -3106865.71

Total friction force = 412986.973

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	CURRENT STOTAL	MIXED LANDSTAT
411	-5094.3	.00000
412	-5288.0	.00000
429	-5449.1	.00000
430	-5858.9	.00000
841	-5421.0	.00000
842	-5808.9	.00000
859	-5449.2	.00000
860	-5859.4	.00000
1271	-5421.1	.00000
1272	-5809.2	.00000
1289	-5449.2	.00000
1290	-5859.5	.00000
1701	-5420.9	.00000
1702	-5809.0	.00000
1719	-5449.1	.00000
1720	-5859.4	.00000
2131	-5420.8	.00000
2132	-5808.9	.00000
2149	-5449.0	.00000
2150	-5859.3	.00000
2561	-5420.8	.00000
2562	-5808.9	.00000
2579	-5449.0	.00000
2580	-5859.3	.00000
2991	-5420.8	.00000
2992	-5808.9	.00000
3009	-5449.0	.00000
3010	-5859.3	.00000
3421	-5420.8	.00000
3422	-5808.9	.00000
3439	-5449.0	.00000
3440	-5859.3	.00000
3851	-5420.8	.00000
3852	-5808.9	.00000
3869	-5449.0	.00000
3870	-5859.3	.00000
4281	-5420.8	.00000
4282	-5808.9	.00000
4299	-5449.0	.00000

Table 3.AB.1 (continued)

4300	-5859.3	.00000
4711	-5420.8	.00000
4712	-5808.9	.00000
4729	-5449.0	.00000
4730	-5859.3	.00000
5141	-5420.8	.00000
5142	-5808.9	.00000
5159	-5449.0	.00000
5160	-5859.3	.00000
5571	-5420.8	.00000
5572	-5808.9	.00000
5589	-5449.0	.00000
5590	-5859.3	.00000
6001	-5420.8	.00000
6002	-5808.9	.00000
6019	-5449.0	.00000
6020	-5859.3	.00000
6431	-5420.8	.00000
6432	-5808.9	.00000
6449	-5449.0	.00000
6450	-5859.3	.00000
6861	-5420.8	.00000
6862	-5808.9	.00000
6879	-5449.0	.00000
6880	-5859.3	.00000
7291	-5420.8	.00000
7292	-5808.9	.00000
7309	-5449.1	.00000
7310	-5859.4	.00000
7721	-5420.9	.00000
7722	-5809.0	.00000
7739	-5449.2	.00000
7740	-5859.5	.00000
8151	-5421.1	.00000
8152	-5809.2	.00000
8169	-5449.2	.00000
8170	-5859.4	.00000
8581	-5421.0	.00000
8582	-5808.9	.00000
8599	-5449.1	.00000
8600	-5858.9	.00000
8635	-5094.3	.00000
8636	-5288.0	.00000

BOLTS

Components: Maximum Stress

STAT	CURRENT
ELEM	SEXT
394	88768.

Table 3.AB.1 (continued)

8618	88768.
824	88747.
8564	88747.
6414	88742.
2974	88742.
6844	88742.
2544	88742.
3404	88742.
5984	88742.
3834	88742.
5554	88742.
4264	88741.
5124	88741.
4694	88741.
7274	88741.
2114	88741.
1684	88739.
7704	88739.
1254	88736.
8134	88736.

LID

NODE	S1	S2	S3	SINT	SEQV
501	7826.4	7763.0	-3447.4	11274.	11242.
479	3358.8	-6168.4	-6245.2	9604.0	9565.8

Minimum safety factor = 2.86505587.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
11023	718.87	133.51	-2110.3	2829.2	2586.7
280	718.87	133.51	-2110.3	2829.2	2586.7
5653	721.06	135.87	-2099.0	2820.1	2577.8
8338	719.49	135.92	-2099.3	2818.8	2577.1
2968	719.49	135.92	-2099.3	2818.8	2577.1
47	1504.2	8.9135	-282.48	1786.7	1660.3
10790	1504.2	8.9135	-282.48	1786.7	1660.3
5420	1504.2	6.3354	-279.95	1784.2	1659.7
8105	1504.2	6.3463	-279.93	1784.1	1659.6
2735	1504.2	6.3463	-279.93	1784.1	1659.6
11025	1409.8	705.73	-112.38	1522.2	1319.5
282	1409.8	705.73	-112.38	1522.2	1319.5
5655	1401.8	696.01	-107.92	1509.8	1308.4
8340	1401.3	696.38	-107.76	1509.1	1307.8
2970	1401.3	696.38	-107.76	1509.1	1307.8
49	274.07	-433.93	-519.71	793.78	754.56
10792	274.07	-433.93	-519.71	793.78	754.56
5422	272.59	-432.86	-519.69	792.28	752.63
8107	272.66	-432.81	-519.62	792.28	752.64

Table 3.AB.1 (continued)

2737	272.66	-432.81	-519.62	792.28	752.64
10869	458.95	159.88	-89.019	547.97	475.22
126	458.95	159.88	-89.019	547.97	475.22
2814	455.47	159.82	-85.611	541.08	469.27
8184	455.47	159.82	-85.611	541.08	469.27
5499	455.39	159.75	-85.610	541.00	469.19
10897	426.15	80.646	-92.042	518.19	457.01
154	426.15	80.646	-92.042	518.19	457.01
2842	422.79	80.623	-88.855	511.65	451.43
8212	422.79	80.623	-88.855	511.65	451.43
5527	422.55	80.575	-88.855	511.41	451.22
10925	410.46	-10.885	-93.187	503.65	467.95
182	410.46	-10.885	-93.187	503.65	467.95
2870	407.33	-10.820	-90.200	497.53	462.98
8240	407.33	-10.820	-90.200	497.53	462.98
5555	406.85	-10.784	-90.206	497.06	462.49
10871	413.59	144.39	-67.911	481.50	417.96
128	413.59	144.39	-67.911	481.50	417.96
5501	410.71	144.33	-64.895	475.61	412.88
8186	410.64	144.36	-64.896	475.53	412.81
2816	410.64	144.36	-64.896	475.53	412.81
10899	383.75	72.375	-75.573	459.32	406.09
156	383.75	72.375	-75.573	459.32	406.09
10927	377.77	12.654	-78.708	456.48	418.35
184	377.77	12.654	-78.708	456.48	418.35
5529	381.27	72.539	-72.746	454.02	401.60
8214	381.06	72.457	-72.745	453.81	401.41
2844	381.06	72.457	-72.745	453.81	401.41
5557	375.53	13.130	-76.001	451.53	414.22
8242	375.16	12.783	-76.010	451.17	413.97
2872	375.16	12.783	-76.010	451.17	413.97

Minimum safety factor = 12.1589829.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
281	1311.1	236.88	-357.08	1668.2	1464.5
11024	1311.1	236.88	-357.08	1668.2	1464.5
5654	1303.7	241.47	-356.36	1660.0	1456.3
2969	1302.9	241.60	-356.09	1659.0	1455.3
8339	1302.9	241.60	-356.09	1659.0	1455.3
48	507.53	-309.02	-318.46	825.99	821.31
10791	507.53	-309.02	-318.46	825.99	821.31
8106	507.32	-310.43	-317.01	824.33	821.06
2736	507.32	-310.43	-317.01	824.33	821.06
5421	507.24	-310.47	-317.03	824.27	821.01
127	434.74	151.46	-78.518	513.26	445.29
10870	434.74	151.46	-78.518	513.26	445.29
2815	431.54	151.42	-75.315	506.85	439.76
8185	431.54	151.42	-75.315	506.85	439.76
5500	431.54	151.37	-75.314	506.85	439.76

Table 3.AB.1 (continued)

10898	403.64	76.040	-83.796	487.44	430.38
155	403.64	76.040	-83.796	487.44	430.38
2843	400.63	76.072	-80.796	481.43	425.28
8213	400.63	76.072	-80.796	481.43	425.28
5528	400.63	76.092	-80.797	481.43	425.27
183	392.93	.29683	-85.920	478.85	442.09
10926	392.93	.29683	-85.920	478.85	442.09
2871	390.07	.39631	-83.085	473.15	437.43
8241	390.07	.39631	-83.085	473.15	437.43
5556	390.04	.59335	-83.083	473.12	437.33

Minimum safety factor = 13.7274707.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
11025	1409.8	705.73	-112.38	1522.2	1319.5
282	1409.8	705.73	-112.38	1522.2	1319.5
5655	1401.8	696.01	-107.92	1509.8	1308.4
8340	1401.3	696.38	-107.76	1509.1	1307.8
2970	1401.3	696.38	-107.76	1509.1	1307.8
283	1348.8	916.89	-109.62	1458.4	1297.5
11026	1348.8	916.89	-109.62	1458.4	1297.5
5656	1341.6	899.27	-108.07	1449.7	1286.9
8341	1341.1	899.52	-108.09	1449.2	1286.6
2971	1341.1	899.52	-108.09	1449.2	1286.6
284	1239.2	947.10	-26.832	1266.0	1148.2
11027	1239.2	947.10	-26.832	1266.0	1148.2
5657	1233.0	922.22	-28.519	1261.6	1138.4
2972	1232.7	922.37	-28.602	1261.3	1138.3
8342	1232.7	922.37	-28.602	1261.3	1138.3
11028	992.92	676.69	-98.804	1091.7	972.95
285	992.92	676.69	-98.804	1091.7	972.95
5658	984.61	644.31	-103.83	1088.4	964.42
8343	984.34	644.25	-104.03	1088.4	964.40
2973	984.34	644.25	-104.03	1088.4	964.40
11029	896.71	472.99	-72.757	969.47	841.80
286	896.71	472.99	-72.757	969.47	841.80
8344	890.08	434.31	-71.033	961.11	832.72
2974	890.08	434.31	-71.033	961.11	832.72
5659	890.24	434.63	-70.740	960.98	832.60
11030	1016.2	717.07	63.862	952.29	843.50
287	1016.2	717.07	63.862	952.29	843.50
5660	970.25	786.91	72.617	897.63	821.45
8345	969.45	786.72	72.389	897.06	821.09
2975	969.42	786.72	72.385	897.03	821.07
50	211.02	-460.70	-631.03	842.05	771.13
10793	211.02	-460.70	-631.03	842.05	771.13
5423	209.30	-460.00	-630.39	839.69	768.78
8108	209.35	-459.96	-630.29	839.64	768.76
2738	209.35	-459.96	-630.29	839.64	768.76
49	274.07	-433.93	-519.71	793.78	754.56

Table 3.AB.1 (continued)

10792	274.07	-433.93	-519.71	793.78	754.56
5422	272.59	-432.86	-519.69	792.28	752.63
8107	272.66	-432.81	-519.62	792.28	752.64
2737	272.66	-432.81	-519.62	792.28	752.64
10794	114.97	-439.47	-586.91	701.88	641.01
51	114.97	-439.47	-586.91	701.88	641.01
5424	113.74	-439.14	-586.24	699.98	639.26
8109	113.77	-439.13	-586.17	699.94	639.23
2739	113.77	-439.13	-586.17	699.94	639.23
10795	47.157	-359.47	-384.74	431.90	419.83
52	47.157	-359.47	-384.74	431.90	419.83
5425	46.245	-358.52	-384.82	431.07	418.53
8110	46.251	-358.53	-384.78	431.03	418.52
2740	46.251	-358.53	-384.78	431.03	418.52
10796	106.39	-179.75	-278.41	384.80	346.18
53	106.39	-179.75	-278.41	384.80	346.18
5426	106.19	-181.02	-276.74	382.93	345.17
8111	106.13	-181.01	-276.79	382.92	345.14
2741	106.13	-181.01	-276.79	382.92	345.14
10937	173.74	115.55	-21.964	195.70	174.06
194	173.74	115.55	-21.964	195.70	174.06
5567	168.09	137.91	-12.822	180.92	167.87
2882	168.08	137.92	-12.825	180.91	167.87
8252	168.08	137.92	-12.825	180.90	167.87
54	-25.780	-165.93	-181.66	155.88	148.64
10797	-25.780	-165.93	-181.66	155.88	148.64
5539	138.17	115.28	-13.287	151.46	141.41
2854	138.17	115.35	-13.287	151.46	141.43
8224	138.17	115.35	-13.286	151.45	141.43
8112	-61.107	-140.74	-202.81	141.70	123.03
2742	-61.110	-140.74	-202.81	141.70	123.03
5427	-61.112	-140.75	-202.79	141.68	123.01
5511	125.68	61.601	-14.504	140.19	121.55
2826	125.68	61.634	-14.504	140.19	121.55
8196	125.68	61.634	-14.504	140.19	121.55
166	115.76	114.85	-21.655	137.41	136.96
10909	115.76	114.85	-21.655	137.41	136.96
138	105.32	57.189	-21.915	127.24	111.27
10881	105.32	57.189	-21.915	127.24	111.27

Minimum safety factor = 17.2773045.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	2091.3	2015.8	-941.50	3032.8	2995.8
27	857.62	-1440.9	-1538.0	2395.6	2348.6

Minimum safety factor = 10.6502163.

ENCLOSSURE

Table 3.AB.1 (continued)

NODE	S1	S2	S3	SINT	SEQV
288	355.45	108.23	-142.87	498.32	431.56
11031	355.45	108.23	-142.87	498.32	431.56
2976	403.09	69.108	-78.471	481.56	427.33
8346	403.09	69.124	-78.466	481.55	427.32
5661	403.03	69.255	-78.519	481.55	427.28
55	59.623	-96.603	-134.08	193.70	177.95
10798	59.623	-96.603	-134.08	193.70	177.95
8113	23.135	-69.848	-151.88	175.02	151.67
2743	23.134	-69.848	-151.88	175.02	151.67
5428	23.134	-69.856	-151.86	174.99	151.65
10938	144.89	98.339	-20.911	165.80	148.12
195	144.89	98.339	-20.911	165.80	148.12
5568	140.71	117.48	-11.662	152.37	142.19
2883	140.60	117.43	-11.670	152.27	142.11
8253	140.60	117.43	-11.646	152.25	142.09
167	114.53	103.19	-19.548	134.07	128.78
10910	114.53	103.19	-19.548	134.07	128.78
5540	123.19	114.03	-10.862	134.05	129.71
8225	123.16	114.13	-10.865	134.02	129.75
2855	123.16	114.14	-10.858	134.02	129.74
8197	118.68	89.294	-9.0640	127.74	115.88
5512	118.67	89.236	-9.0605	127.74	115.86
2827	118.68	89.297	-9.0577	127.73	115.87
10882	99.483	88.255	-16.973	116.46	111.27
139	99.483	88.255	-16.973	116.46	111.27

Minimum safety factor = 35.1181247.

Table 3.AB.2

LANDS

Total compressive force = -3050012.86

Total friction force = 463230.132

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5082.1	.00000
412	-5283.0	.00000
429	-5429.2	.00000
430	-5851.7	.00000
841	-5396.6	.00000
842	-5798.9	.00000
859	-5429.4	.00000
860	-5852.2	.00000
1271	-5396.6	.00000
1272	-5799.2	.00000
1289	-5429.4	.00000
1290	-5852.3	.00000
1701	-5396.5	.00000
1702	-5799.0	.00000
1719	-5429.3	.00000
1720	-5852.2	.00000
2131	-5396.4	.00000
2132	-5798.9	.00000
2149	-5429.2	.00000
2150	-5852.1	.00000
2561	-5396.3	.00000
2562	-5798.9	.00000
2579	-5429.2	.00000
2580	-5852.1	.00000
2991	-5396.3	.00000
2992	-5798.9	.00000
3009	-5429.2	.00000
3010	-5852.1	.00000
3421	-5396.3	.00000
3422	-5798.9	.00000
3439	-5429.2	.00000
3440	-5852.1	.00000
3851	-5396.3	.00000
3852	-5798.9	.00000
3869	-5429.2	.00000
3870	-5852.1	.00000
4281	-5396.3	.00000
4282	-5798.9	.00000
4299	-5429.2	.00000

Table 3.AB.2 (continued)

4300	-5852.1	.00000
4711	-5396.3	.00000
4712	-5798.9	.00000
4729	-5429.2	.00000
4730	-5852.1	.00000
5141	-5396.3	.00000
5142	-5798.9	.00000
5159	-5429.2	.00000
5160	-5852.1	.00000
5571	-5396.3	.00000
5572	-5798.9	.00000
5589	-5429.2	.00000
5590	-5852.1	.00000
6001	-5396.3	.00000
6002	-5798.9	.00000
6019	-5429.2	.00000
6020	-5852.1	.00000
6431	-5396.3	.00000
6432	-5798.9	.00000
6449	-5429.2	.00000
6450	-5852.1	.00000
6861	-5396.3	.00000
6862	-5798.9	.00000
6879	-5429.2	.00000
6880	-5852.1	.00000
7291	-5396.4	.00000
7292	-5798.9	.00000
7309	-5429.3	.00000
7310	-5852.2	.00000
7721	-5396.5	.00000
7722	-5799.0	.00000
7739	-5429.4	.00000
7740	-5852.3	.00000
8151	-5396.6	.00000
8152	-5799.2	.00000
8169	-5429.4	.00000
8170	-5852.2	.00000
8581	-5396.6	.00000
8582	-5798.9	.00000
8599	-5429.2	.00000
8600	-5851.7	.00000
8635	-5082.1	.00000
8636	-5283.0	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
394	88492.
8618	88492.

824	88469.
8564	88469.
6414	88465.
2974	88465.
6844	88465.
2544	88465.
3404	88465.
5984	88465.
3834	88464.
5554	88464.
4264	88464.
5124	88464.
4694	88464.
7274	88464.
2114	88464.
1684	88462.
7704	88462.
1254	88459.
8134	88459.

LID

NODE	S1	S2	S3	SINT	SEQV
501	8546.8	8477.3	-3769.5	12316.	12282.
479	3657.1	-6738.2	-6822.4	10480.	10438.

Minimum safety factor = 5.50488371.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
11023	781.83	115.84	-2156.4	2938.3	2668.3
280	781.83	115.84	-2156.4	2938.3	2668.3
5653	783.78	118.63	-2144.7	2928.5	2659.0
8338	782.13	118.68	-2145.0	2927.1	2658.3
2968	782.13	118.68	-2145.0	2927.1	2658.3
47	1874.4	22.730	-347.61	2222.0	2061.9
10790	1874.4	22.730	-347.61	2222.0	2061.9
5420	1874.4	19.489	-344.41	2218.8	2061.1
8105	1874.4	19.500	-344.39	2218.8	2061.1
2735	1874.4	19.500	-344.39	2218.8	2061.1
11025	1493.8	733.94	-109.04	1602.9	1388.8
282	1493.8	733.94	-109.04	1602.9	1388.8
5655	1485.2	723.59	-103.79	1589.0	1376.5
8340	1484.7	723.98	-103.64	1588.3	1375.9
2970	1484.7	723.98	-103.64	1588.3	1375.9
49	355.09	-522.26	-630.72	985.81	936.30
10792	355.09	-522.26	-630.72	985.81	936.30
5422	353.32	-520.96	-630.65	983.97	933.97
8107	353.39	-520.91	-630.57	983.97	933.97
2737	353.39	-520.91	-630.57	983.97	933.97

Table 3.AB.2 (continued)

10869	573.65	222.88	-111.14	684.79	593.11
126	573.65	222.88	-111.14	684.79	593.11
2814	569.33	222.83	-106.88	676.21	585.67
8184	569.33	222.83	-106.88	676.21	585.67
5499	569.24	222.76	-106.88	676.12	585.60
10897	532.91	124.06	-115.12	648.03	567.59
154	532.91	124.06	-115.12	648.03	567.59
2842	528.76	124.03	-111.13	639.89	560.61
8212	528.76	124.03	-111.13	639.89	560.61
5527	528.51	123.98	-111.13	639.64	560.39
10925	511.81	13.648	-116.69	628.51	574.53
182	511.81	13.648	-116.69	628.51	574.53
2870	507.95	13.717	-112.94	620.89	568.25
8240	507.95	13.717	-112.94	620.89	568.25
5555	507.44	13.747	-112.95	620.39	567.74
10871	517.08	204.18	-85.055	602.14	521.60
128	517.08	204.18	-85.055	602.14	521.60
5501	513.46	204.12	-81.287	594.75	515.20
8186	513.38	204.15	-81.288	594.67	515.13
2816	513.38	204.15	-81.288	594.67	515.13
10899	480.07	113.98	-94.416	574.49	503.73
156	480.07	113.98	-94.416	574.49	503.73
5529	476.90	114.14	-90.882	567.78	497.99
8214	476.67	114.06	-90.880	567.55	497.80
2844	476.67	114.06	-90.880	567.55	497.80
10927	469.08	35.418	-98.190	567.27	513.67
184	469.08	35.418	-98.190	567.27	513.67
5557	466.16	35.894	-94.805	560.97	508.38
8242	465.76	35.533	-94.815	560.58	508.10
2872	465.76	35.533	-94.815	560.58	508.10

Minimum safety factor = 24.6064374.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
281	1394.9	226.45	-344.76	1739.7	1535.9
11024	1394.9	226.45	-344.76	1739.7	1535.9
5654	1386.9	231.43	-343.85	1730.7	1526.7
2969	1386.1	231.57	-343.57	1729.7	1525.7
8339	1386.1	231.57	-343.57	1729.7	1525.7
10791	651.92	-368.01	-389.17	1041.1	1030.7
48	651.92	-368.01	-389.17	1041.1	1030.7
8106	651.68	-368.41	-388.69	1040.4	1030.4
2736	651.68	-368.41	-388.69	1040.4	1030.4
5421	651.60	-368.46	-388.72	1040.3	1030.3
10870	543.46	212.69	-98.157	641.62	555.75
127	543.46	212.69	-98.157	641.62	555.75
2815	539.46	212.65	-94.156	633.62	548.82
8185	539.46	212.65	-94.156	633.62	548.82
5500	539.46	212.60	-94.156	633.62	548.82
155	504.86	118.45	-104.75	609.62	534.21

Table 3.AB.2 (continued)

10898	504.86	118.45	-104.75	609.62	534.21
2843	501.10	118.48	-101.00	602.11	527.78
8213	501.10	118.48	-101.00	602.11	527.78
5528	501.10	118.50	-101.00	602.10	527.78
183	488.95	23.858	-107.41	596.37	542.77
10926	488.95	23.858	-107.41	596.37	542.77
2871	485.37	23.951	-103.86	589.24	536.86
8241	485.37	23.951	-103.86	589.24	536.86
5556	485.34	24.153	-103.86	589.20	536.76

Minimum safety factor = 27.7062904.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
11025	1493.8	733.94	-109.04	1602.9	1388.8
282	1493.8	733.94	-109.04	1602.9	1388.8
5655	1485.2	723.59	-103.79	1589.0	1376.5
2970	1484.7	723.98	-103.64	1588.3	1375.9
8340	1484.7	723.98	-103.64	1588.3	1375.9
11026	1429.8	957.00	-100.01	1529.8	1356.7
283	1429.8	957.00	-100.01	1529.8	1356.7
5656	1422.1	938.38	-97.803	1519.9	1344.9
8341	1421.5	938.64	-97.827	1519.4	1344.6
2971	1421.5	938.64	-97.827	1519.4	1344.6
284	1316.4	995.72	-8.2554	1324.7	1197.0
11027	1316.4	995.72	-8.2554	1324.7	1197.0
5657	1309.8	969.39	-9.3795	1319.2	1186.2
2972	1309.4	969.54	-9.4662	1318.9	1186.0
8342	1309.4	969.54	-9.4662	1318.9	1186.0
11028	1064.2	727.84	-74.768	1139.0	1013.6
285	1064.2	727.84	-74.768	1139.0	1013.6
5658	1055.3	693.58	-79.325	1134.6	1003.9
8343	1055.0	693.51	-79.534	1134.5	1003.9
2973	1055.0	693.51	-79.534	1134.5	1003.9
10793	269.27	-558.53	-767.32	1036.6	949.57
50	269.27	-558.53	-767.32	1036.6	949.57
5423	267.18	-557.65	-766.48	1033.7	946.69
8108	267.23	-557.61	-766.39	1033.6	946.66
2738	267.23	-557.61	-766.39	1033.6	946.66
11029	969.50	541.79	-53.578	1023.1	889.97
286	969.50	541.79	-53.578	1023.1	889.97
8344	962.32	501.12	-51.461	1013.8	879.15
2974	962.32	501.12	-51.461	1013.8	879.15
5659	962.49	501.47	-51.164	1013.7	879.05
11030	1080.4	762.33	77.636	1002.8	887.55
287	1080.4	762.33	77.636	1002.8	887.55
49	355.09	-522.26	-630.72	985.81	936.30
10792	355.09	-522.26	-630.72	985.81	936.30
5422	353.32	-520.96	-630.65	983.97	933.97
8107	353.39	-520.91	-630.57	983.97	933.97
2737	353.39	-520.91	-630.57	983.97	933.97

Table 3.AB.2 (continued)

5660	1029.6	836.69	88.446	941.11	861.03
8345	1028.7	836.49	88.210	940.52	860.66
2975	1028.7	836.49	88.207	940.49	860.64
10794	142.60	-536.52	-715.63	858.23	784.17
51	142.60	-536.52	-715.63	858.23	784.17
5424	141.10	-536.10	-714.78	855.88	782.00
8109	141.13	-536.08	-714.70	855.83	781.98
2739	141.13	-536.08	-714.70	855.83	781.98
10795	45.523	-443.97	-470.81	516.34	503.45
52	45.523	-443.97	-470.81	516.34	503.45
5425	44.400	-442.82	-470.88	515.28	501.84
8110	44.406	-442.83	-470.84	515.24	501.83
2740	44.406	-442.83	-470.84	515.24	501.83
10796	85.152	-223.22	-355.39	440.55	391.56
53	85.152	-223.22	-355.39	440.55	391.56
5426	84.880	-224.81	-353.32	438.20	390.16
8111	84.820	-224.80	-353.36	438.18	390.13
2741	84.820	-224.80	-353.36	438.18	390.13
10937	200.95	146.36	-27.608	228.55	206.74
194	200.95	146.36	-27.608	228.55	206.74
5567	195.81	174.69	-16.227	212.03	202.30
2882	195.79	174.70	-16.230	212.02	202.30
8252	195.79	174.70	-16.230	212.02	202.30
54	-31.178	-208.14	-225.00	193.82	185.96
10797	-31.178	-208.14	-225.00	193.82	185.96
5539	172.52	132.38	-16.627	189.15	172.61
2854	172.52	132.45	-16.627	189.15	172.64
8224	172.52	132.45	-16.625	189.15	172.63
5511	157.50	65.209	-18.322	175.82	152.33
2826	157.50	65.241	-18.322	175.82	152.33
8196	157.50	65.241	-18.322	175.82	152.33
8112	-74.583	-178.02	-249.63	175.05	152.43
2742	-74.586	-178.02	-249.63	175.04	152.42
5427	-74.588	-178.03	-249.61	175.02	152.41
166	144.53	130.52	-27.100	171.63	165.07
10909	144.53	130.52	-27.100	171.63	165.07
138	131.98	58.566	-27.834	159.82	138.56
10881	131.98	58.566	-27.834	159.82	138.56

Minimum safety factor = 36.6217409.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	2601.5	2507.4	-1173.6	3775.1	3728.9
27	1068.4	-1800.2	-1921.0	2989.3	2930.8

Minimum safety factor = 17.9596185.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.2 (continued)

288	378.39	133.68	-159.41	537.79	466.37
11031	378.39	133.68	-159.41	537.79	466.37
2976	429.01	85.047	-86.656	515.66	454.81
8346	429.01	85.064	-86.651	515.66	454.80
5661	428.94	85.197	-86.704	515.64	454.75
55	73.984	-120.45	-164.36	238.35	219.71
10798	73.984	-120.45	-164.36	238.35	219.71
8113	28.912	-86.838	-186.14	215.05	186.42
2743	28.911	-86.837	-186.14	215.05	186.42
5428	28.912	-86.846	-186.11	215.02	186.40
10938	171.16	125.65	-26.099	197.26	178.90
195	171.16	125.65	-26.099	197.26	178.90
5568	167.36	150.09	-14.558	181.92	173.93
2883	167.24	150.04	-14.566	181.81	173.84
8253	167.25	150.04	-14.541	181.79	173.82
5540	153.66	130.07	-13.602	167.26	156.80
8225	153.63	130.18	-13.604	167.23	156.83
2855	153.63	130.18	-13.598	167.23	156.82
8197	148.62	99.319	-11.422	160.05	141.97
5512	148.62	99.261	-11.419	160.04	141.95
2827	148.62	99.321	-11.416	160.04	141.96
167	129.28	128.70	-24.471	153.76	153.46
10910	129.28	128.70	-24.471	153.76	153.46
10882	124.55	96.788	-21.452	146.01	134.29
139	124.55	96.788	-21.452	146.01	134.29

Minimum safety factor = 72.7043315.

Table 3.AB.3

LANDS

Total compressive force = -4083788.45

Total friction force = 511333.465

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5293.2	.00000
412	-5382.9	.00000
429	-5774.0	.00000
430	-6006.0	.00000
841	-5818.7	.00000
842	-5998.2	.00000
859	-5774.0	.00000
860	-6006.3	.00000
1271	-5818.7	.00000
1272	-5998.3	.00000
1289	-5774.0	.00000
1290	-6006.4	.00000
1701	-5818.6	.00000
1702	-5998.2	.00000
1719	-5774.0	.00000
1720	-6006.3	.00000
2131	-5818.6	.00000
2132	-5998.2	.00000
2149	-5773.9	.00000
2150	-6006.3	.00000
2561	-5818.6	.00000
2562	-5998.2	.00000
2579	-5773.9	.00000
2580	-6006.2	.00000
2991	-5818.6	.00000
2992	-5998.2	.00000
3009	-5773.9	.00000
3010	-6006.2	.00000
3421	-5818.6	.00000
3422	-5998.2	.00000
3439	-5773.9	.00000
3440	-6006.2	.00000
3851	-5818.6	.00000
3852	-5998.2	.00000
3869	-5773.9	.00000
3870	-6006.3	.00000
4281	-5818.6	.00000
4282	-5998.2	.00000
4299	-5773.9	.00000

Table 3.AB.3 (continued)

4300	-6006.3	.00000
4711	-5818.6	.00000
4712	-5998.2	.00000
4729	-5773.9	.00000
4730	-6006.3	.00000
5141	-5818.6	.00000
5142	-5998.2	.00000
5159	-5773.9	.00000
5160	-6006.3	.00000
5571	-5818.6	.00000
5572	-5998.2	.00000
5589	-5773.9	.00000
5590	-6006.2	.00000
6001	-5818.6	.00000
6002	-5998.2	.00000
6019	-5773.9	.00000
6020	-6006.2	.00000
6431	-5818.6	.00000
6432	-5998.2	.00000
6449	-5773.9	.00000
6450	-6006.2	.00000
6861	-5818.6	.00000
6862	-5998.2	.00000
6879	-5773.9	.00000
6880	-6006.3	.00000
7291	-5818.6	.00000
7292	-5998.2	.00000
7309	-5774.0	.00000
7310	-6006.3	.00000
7721	-5818.6	.00000
7722	-5998.2	.00000
7739	-5774.0	.00000
7740	-6006.4	.00000
8151	-5818.7	.00000
8152	-5998.3	.00000
8169	-5774.0	.00000
8170	-6006.3	.00000
8581	-5818.7	.00000
8582	-5998.2	.00000
8599	-5774.0	.00000
8600	-6006.0	.00000
8635	-5293.2	.00000
8636	-5382.9	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
394	91773.
8618	91773.

Table 3.AB.3 (continued)

824	91762.
8564	91762.
6844	91760.
2544	91760.
2974	91760.
6414	91760.
3404	91760.
5984	91760.
3834	91760.
5554	91760.
4264	91759.
5124	91759.
4694	91759.
7274	91759.
2114	91759.
1684	91758.
7704	91758.
1254	91757.
8134	91757.

LID

NODE	S1	S2	S3	SINT	SEQV
501	1222.6	-3460.3	-3492.5	4715.0	4699.1
479	2440.6	2403.4	-1528.6	3969.2	3950.7

Minimum safety factor = 14.3795271.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
47	464.90	-516.67	-4817.1	5282.0	4866.0
10790	464.90	-516.67	-4817.1	5282.0	4866.0
2735	456.70	-508.54	-4817.0	5273.7	4863.5
8105	456.70	-508.54	-4817.0	5273.7	4863.5
5420	456.69	-508.53	-4817.0	5273.7	4863.5
49	966.07	667.00	-1448.7	2414.8	2280.0
10792	966.07	667.00	-1448.7	2414.8	2280.0
5422	965.27	664.36	-1445.7	2410.9	2275.4
2737	965.33	664.40	-1445.6	2410.9	2275.4
8107	965.33	664.40	-1445.6	2410.9	2275.4
280	124.21	-614.59	-1911.2	2035.5	1784.7
11023	124.21	-614.59	-1911.2	2035.5	1784.7
8338	119.31	-608.04	-1905.3	2024.6	1776.3
2968	119.31	-608.04	-1905.3	2024.6	1776.3
5653	119.27	-607.36	-1905.1	2024.3	1776.2
126	-34.516	-1248.0	-1648.2	1613.7	1455.4
10869	-34.516	-1248.0	-1648.2	1613.7	1455.4
5499	-44.539	-1248.1	-1638.3	1593.8	1438.9
8184	-44.538	-1248.0	-1638.3	1593.7	1438.9
2814	-44.538	-1248.0	-1638.3	1593.7	1438.9

Table 3.AB.3 (continued)

10897	-22.673	-1023.2	-1557.6	1534.9	1349.6
154	-22.673	-1023.2	-1557.6	1534.9	1349.6
5527	-32.099	-1023.2	-1548.5	1516.4	1333.7
8212	-32.097	-1023.2	-1548.4	1516.3	1333.7
2842	-32.097	-1023.2	-1548.4	1516.3	1333.7
182	-17.225	-826.78	-1491.0	1473.7	1278.4
10925	-17.225	-826.78	-1491.0	1473.7	1278.4
5555	-26.337	-826.66	-1482.4	1456.0	1263.0
8240	-26.337	-826.76	-1482.2	1455.9	1262.9
2870	-26.337	-826.76	-1482.2	1455.9	1262.9
10871	-92.145	-1206.2	-1514.7	1422.5	1296.1
128	-92.145	-1206.2	-1514.7	1422.5	1296.1
2816	-101.01	-1206.2	-1505.8	1404.8	1281.5
8186	-101.01	-1206.2	-1505.8	1404.8	1281.5
5501	-101.02	-1206.3	-1505.7	1404.7	1281.5
10899	-73.264	-1003.0	-1435.0	1361.7	1205.3
156	-73.264	-1003.0	-1435.0	1361.7	1205.3
2844	-81.624	-1002.9	-1426.4	1344.8	1190.9
8214	-81.624	-1002.9	-1426.4	1344.8	1190.9
5529	-81.622	-1002.8	-1426.3	1344.7	1190.8
10927	-66.220	-772.91	-1363.8	1297.5	1125.2
184	-66.220	-772.91	-1363.8	1297.5	1125.2
2872	-74.244	-772.61	-1355.4	1281.1	1111.0
8242	-74.244	-772.61	-1355.4	1281.1	1111.0
5557	-74.239	-772.42	-1355.2	1281.0	1110.9
11025	194.68	-234.49	-848.94	1043.6	908.54
282	194.68	-234.49	-848.94	1043.6	908.54
5655	188.69	-233.49	-852.28	1041.0	906.84
8340	188.83	-233.67	-852.06	1040.9	906.74
2970	188.83	-233.67	-852.06	1040.9	906.74

Minimum safety factor = 13.6879946.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
10791	536.14	298.23	-2225.7	2761.8	2650.9
48	536.14	298.23	-2225.7	2761.8	2650.9
5421	535.81	298.07	-2225.4	2761.2	2650.4
8106	535.83	298.10	-2225.4	2761.2	2650.3
2736	535.83	298.10	-2225.4	2761.2	2650.3
127	-63.259	-1224.9	-1577.0	1513.8	1372.0
10870	-63.259	-1224.9	-1577.0	1513.8	1372.0
2815	-72.678	-1225.0	-1567.6	1494.9	1356.5
8185	-72.678	-1225.0	-1567.6	1494.9	1356.5
5500	-72.680	-1225.0	-1567.6	1494.9	1356.5
155	-47.961	-1012.0	-1492.5	1444.5	1274.2
10898	-47.961	-1012.0	-1492.5	1444.5	1274.2
2843	-56.831	-1012.0	-1483.6	1426.8	1259.1
8213	-56.831	-1012.0	-1483.6	1426.8	1259.1
5528	-56.830	-1011.9	-1483.6	1426.8	1259.1
183	-41.701	-799.07	-1423.7	1382.0	1198.7

Table 3.AB.3 (continued)

10926	-41.701	-799.07	-1423.7	1382.0	1198.7
5556	-50.244	-798.76	-1415.1	1364.9	1183.9
2871	-50.246	-798.90	-1415.1	1364.9	1183.9
8241	-50.246	-798.90	-1415.1	1364.9	1183.9
11024	130.82	-336.81	-1044.4	1175.2	1024.8
281	130.82	-336.81	-1044.4	1175.2	1024.8
5654	127.02	-334.63	-1044.6	1171.7	1022.3
8339	127.11	-334.90	-1044.5	1171.6	1022.2
2969	127.11	-334.90	-1044.5	1171.6	1022.2

Minimum safety factor = 17.4523426.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
49	966.07	667.00	-1448.7	2414.8	2280.0
10792	966.07	667.00	-1448.7	2414.8	2280.0
5422	965.27	664.36	-1445.7	2410.9	2275.4
2737	965.33	664.40	-1445.6	2410.9	2275.4
8107	965.33	664.40	-1445.6	2410.9	2275.4
50	1265.6	812.19	-1111.8	2377.4	2186.3
10793	1265.6	812.19	-1111.8	2377.4	2186.3
2738	1263.2	810.22	-1107.6	2370.8	2179.9
8108	1263.2	810.22	-1107.6	2370.8	2179.9
5423	1263.2	810.19	-1107.6	2370.8	2179.9
10794	1242.7	861.30	-672.45	1915.1	1755.8
51	1242.7	861.30	-672.45	1915.1	1755.8
2739	1240.5	860.30	-669.42	1909.9	1751.1
8109	1240.5	860.30	-669.42	1909.9	1751.1
5424	1240.5	860.30	-669.45	1909.9	1751.1
11025	194.68	-234.49	-848.94	1043.6	908.54
282	194.68	-234.49	-848.94	1043.6	908.54
5655	188.69	-233.49	-852.28	1041.0	906.84
8340	188.83	-233.67	-852.06	1040.9	906.74
2970	188.83	-233.67	-852.06	1040.9	906.74
283	153.10	-243.08	-864.32	1017.4	888.26
11026	153.10	-243.08	-864.32	1017.4	888.26
8341	144.75	-242.11	-869.91	1014.7	886.94
2971	144.75	-242.11	-869.91	1014.7	886.94
5656	144.64	-241.92	-869.93	1014.6	886.90
10795	884.30	838.83	-113.48	997.78	975.84
52	884.30	838.83	-113.48	997.78	975.84
8110	883.47	838.15	-111.97	995.44	973.57
2740	883.47	838.15	-111.97	995.44	973.57
5425	883.44	838.17	-111.98	995.42	973.57
54	511.80	381.59	-455.56	967.36	909.27
10797	511.80	381.59	-455.56	967.36	909.27
11027	-7.7414	-286.66	-844.93	837.19	738.36
284	-7.7414	-286.66	-844.93	837.19	738.36
2972	-17.024	-285.37	-853.63	836.61	739.88
8342	-17.024	-285.37	-853.63	836.61	739.88
5657	-17.109	-285.23	-853.61	836.50	739.82

2742	451.43	436.62	-331.91	783.35	776.05
8112	451.44	436.62	-331.91	783.35	776.04
5427	451.43	436.64	-331.91	783.34	776.05
8343	-316.30	-394.89	-888.79	572.48	537.51
2973	-316.30	-394.89	-888.79	572.48	537.51
5658	-316.32	-394.78	-888.67	572.35	537.43
285	-306.22	-395.31	-876.08	569.86	530.95
11028	-306.22	-395.31	-876.08	569.86	530.95
10796	1030.3	934.43	461.94	568.39	527.02
53	1030.3	934.43	461.94	568.39	527.02
5426	1021.5	939.84	465.54	555.94	519.94
8111	1021.4	939.80	465.55	555.88	519.90
2741	1021.4	939.80	465.55	555.88	519.90
194	-18.357	-481.05	-535.81	517.45	492.36
10937	-18.357	-481.05	-535.81	517.45	492.36
5567	-69.960	-541.16	-574.89	504.93	488.94
2882	-69.965	-541.17	-574.87	504.91	488.93
8252	-69.967	-541.17	-574.87	504.90	488.93
8224	-72.013	-439.64	-539.22	467.21	426.23
2854	-72.014	-439.64	-539.22	467.21	426.23
5539	-72.010	-439.68	-539.22	467.21	426.25
2826	-67.478	-290.67	-513.99	446.51	386.69
8196	-67.478	-290.68	-513.99	446.51	386.69
5511	-67.480	-290.72	-513.99	446.51	386.69
166	-22.341	-426.31	-451.20	428.86	416.97
10909	-22.341	-426.31	-451.20	428.86	416.97
138	-20.714	-266.31	-430.15	409.44	356.93
10881	-20.714	-266.31	-430.15	409.44	356.93
5660	205.89	8.5940	-201.74	407.62	353.07
8345	205.32	8.4261	-201.88	407.20	352.71
2975	205.30	8.4261	-201.88	407.18	352.69
287	183.26	10.227	-203.54	386.80	335.60
11030	183.26	10.227	-203.54	386.80	335.60
8344	-407.72	-496.74	-728.83	321.11	287.14
2974	-407.72	-496.74	-728.83	321.11	287.14
5659	-407.65	-496.62	-728.71	321.06	287.10
286	-408.10	-495.65	-710.99	302.88	269.97
11029	-408.10	-495.65	-710.99	302.88	269.97

Minimum safety factor = 24.3083492.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	2468.7	-6027.8	-6254.0	8722.8	8611.9
27	4381.2	4102.9	-2803.7	7185.0	7049.9

Minimum safety factor = 7.77277504.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.3 (continued)

55	258.36	225.44	-685.52	943.87	927.85
10798	258.36	225.44	-685.52	943.87	927.85
5428	290.86	164.43	-548.87	839.73	784.19
2743	290.84	164.43	-548.87	839.71	784.18
8113	290.84	164.43	-548.86	839.71	784.18
11031	-51.865	-112.34	-659.03	607.17	579.30
288	-51.865	-112.34	-659.03	607.17	579.30
10938	74.387	-392.30	-504.13	578.51	531.50
195	74.387	-392.30	-504.13	578.51	531.50
5661	-38.006	-127.10	-589.75	551.75	513.04
8346	-38.071	-127.14	-589.74	551.67	512.97
2976	-38.078	-127.14	-589.74	551.66	512.97
8253	41.324	-468.34	-496.93	538.25	524.55
2883	41.322	-468.34	-496.93	538.25	524.54
5568	41.325	-468.36	-496.90	538.22	524.53
5540	39.174	-370.44	-431.65	470.83	443.40
2855	39.179	-370.37	-431.65	470.82	443.37
8225	39.166	-370.37	-431.65	470.81	443.36
5512	33.335	-313.66	-430.62	463.96	417.94
2827	33.341	-313.59	-430.61	463.95	417.91
8197	33.331	-313.59	-430.61	463.94	417.90
167	70.322	-361.53	-367.42	437.74	434.83
10910	70.322	-361.53	-367.42	437.74	434.83
139	62.036	-307.88	-360.84	422.87	399.04
10882	62.036	-307.88	-360.84	422.87	399.04

Minimum safety factor = 41.4250634.

Table 3.AB.4

LANDS

Total compressive force = -3332437.33

Total friction force = 156520.984

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5153.3	.00000
412	-5337.1	.00000
429	-5527.1	.00000
430	-5927.3	.00000
841	-5508.1	.00000
842	-5864.6	.00000
859	-5513.7	.00000
860	-5895.3	.00000
1271	-5494.9	.00000
1272	-5839.4	.00000
1289	-5510.2	.00000
1290	-5879.3	.00000
1701	-5498.4	.00000
1702	-5836.0	.00000
1719	-5514.7	.00000
1720	-5878.9	.00000
2131	-5506.7	.00000
2132	-5840.9	.00000
2149	-5521.3	.00000
2150	-5883.5	.00000
2561	-5514.1	.00000
2562	-5846.3	.00000
2579	-5526.4	.00000
2580	-5887.5	.00000
2991	-5519.0	.00000
2992	-5849.7	.00000
3009	-5529.5	.00000
3010	-5889.7	.00000
3421	-5521.9	.00000
3422	-5851.6	.00000
3439	-5531.2	.00000
3440	-5890.7	.00000
3851	-5523.4	.00000
3852	-5852.3	.00000
3869	-5532.0	.00000
3870	-5891.0	.00000
4281	-5524.0	.00000
4282	-5852.6	.00000
4299	-5532.3	.00000

Table 3.AB.4 (continued)

4300	-5891.1	.00000
4711	-5524.2	.00000
4712	-5852.7	.00000
4729	-5532.3	.00000
4730	-5891.1	.00000
5141	-5524.0	.00000
5142	-5852.6	.00000
5159	-5532.0	.00000
5160	-5891.0	.00000
5571	-5523.4	.00000
5572	-5852.3	.00000
5589	-5531.2	.00000
5590	-5890.7	.00000
6001	-5521.9	.00000
6002	-5851.6	.00000
6019	-5529.5	.00000
6020	-5889.7	.00000
6431	-5519.0	.00000
6432	-5849.7	.00000
6449	-5526.4	.00000
6450	-5887.5	.00000
6861	-5514.1	.00000
6862	-5846.3	.00000
6879	-5521.3	.00000
6880	-5883.5	.00000
7291	-5506.7	.00000
7292	-5840.9	.00000
7309	-5514.7	.00000
7310	-5878.9	.00000
7721	-5498.4	.00000
7722	-5836.0	.00000
7739	-5510.2	.00000
7740	-5879.3	.00000
8151	-5494.9	.00000
8152	-5839.4	.00000
8169	-5513.7	.00000
8170	-5895.3	.00000
8581	-5508.1	.00000
8582	-5864.6	.00000
8599	-5527.1	.00000
8600	-5927.3	.00000
8635	-5153.3	.00000
8636	-5337.1	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
7704	89941.
1684	89941.

Table 3.AB.4 (continued)

2114	89916.
7274	89916.
6844	89856.
2544	89856.
2974	89820.
6414	89820.
4694	89811.
4264	89810.
5124	89810.
3404	89808.
5984	89808.
3834	89807.
5554	89807.
8134	89674.
1254	89674.
8564	88731.
824	88731.
394	87432.
8618	87432.

LID

NODE	S1	S2	S3	SINT	SEQV
501	5078.9	4681.0	-2176.9	7255.8	7065.3
479	2184.0	-4006.0	-4046.7	6230.7	6210.5

Minimum safety factor = 4.45161727.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
8338	1054.8	244.30	-1963.3	3018.1	2705.5
2968	1054.8	244.30	-1963.3	3018.1	2705.5
5653	579.57	232.73	-1988.9	2568.5	2413.8
11023	301.89	-1057.6	-1976.3	2278.2	1985.3
280	301.89	-1057.6	-1976.3	2278.2	1985.3
11025	2200.4	966.60	-45.392	2245.8	1948.1
282	2200.4	966.60	-45.392	2245.8	1948.1
8340	1395.0	699.71	-152.77	1547.7	1342.7
2970	1395.0	699.71	-152.77	1547.7	1342.7
5655	1170.7	675.94	-118.83	1289.5	1126.8
47	958.32	-138.60	-272.58	1230.9	1169.7
10790	958.32	-138.60	-272.58	1230.9	1169.7
2735	885.48	-127.91	-215.76	1101.2	1060.1
8105	885.48	-127.91	-215.76	1101.2	1060.1
5420	810.08	-116.84	-156.30	966.39	947.27
49	80.227	-331.02	-548.64	628.87	553.15
10792	80.227	-331.02	-548.64	628.87	553.15
8107	71.712	-299.14	-498.04	569.76	500.86
2737	71.712	-299.14	-498.04	569.76	500.86
5422	64.077	-278.51	-432.36	496.43	440.16

Table 3.AB.4 (continued)

10925	141.50	2.0396	-315.50	456.99	405.66
182	141.50	2.0396	-315.50	456.99	405.66
184	373.58	291.48	-5.5331	379.11	345.46
10927	373.58	291.48	-5.5331	379.11	345.46
10897	83.149	-.68183	-224.79	307.94	275.76
154	83.149	-.68183	-224.79	307.94	275.76
5555	232.98	6.4461	-18.513	251.50	239.99
5527	232.68	58.162	3.1606	229.52	207.56
10899	226.12	198.19	-1.8428	227.96	215.36
156	226.12	198.19	-1.8428	227.96	215.36
5529	-3.4730	-94.703	-199.68	196.20	170.06
2872	147.10	.43818	-39.900	187.00	170.45
8242	147.10	.43818	-39.900	187.00	170.45
5557	-1.0339	-176.25	-180.48	179.45	177.37
126	45.539	-1.9567	-122.68	168.22	150.21
10869	45.539	-1.9567	-122.68	168.22	150.21
2870	130.93	18.040	-3.7882	134.72	125.24
8240	130.93	18.040	-3.7882	134.72	125.24
2842	102.23	1.6983	-31.034	133.26	120.28
8212	102.23	1.6983	-31.034	133.26	120.28
5499	129.54	65.114	-1.6470	131.19	113.62
5501	3.7959	-23.303	-110.42	114.22	103.37
10871	112.97	110.55	1.7660	111.21	110.01
128	112.97	110.55	1.7660	111.21	110.01
2814	81.457	-1.4442	-24.596	106.05	96.581
8184	81.457	-1.4442	-24.596	106.05	96.581
2844	82.480	3.2542	-1.2143	83.694	81.552
8214	82.480	3.2542	-1.2143	83.694	81.552
2816	47.237	3.4554	-2.0480	49.285	46.776
8186	47.237	3.4554	-2.0480	49.285	46.776

Minimum safety factor = 11.3979447.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
2969	1398.5	338.75	-392.93	1791.4	1560.0
8339	1398.5	338.75	-392.93	1791.4	1560.0
5654	1085.0	322.82	-404.74	1489.8	1290.3
11024	1005.6	297.98	134.88	870.67	801.66
281	1005.6	297.98	134.88	870.67	801.66
48	225.30	-177.59	-502.99	728.29	631.91
10791	225.30	-177.59	-502.99	728.29	631.91
2736	204.52	-163.44	-442.00	646.52	561.68
8106	204.52	-163.44	-442.00	646.52	561.68
5421	186.10	-149.75	-379.17	565.27	492.42
10926	260.95	1.9107	-3.2087	264.16	261.64
183	260.95	1.9107	-3.2087	264.16	261.64
155	157.19	-.12204	-5.5190	162.71	160.08
10898	157.19	-.12204	-5.5190	162.71	160.08
8241	134.81	1.6977	-12.280	147.08	140.62
2871	134.81	1.6977	-12.280	147.08	140.62

Table 3.AB.4 (continued)

5556	17.325	2.5032	-100.26	117.58	110.92
2843	89.276	2.2982	-12.727	102.00	95.381
8213	89.276	2.2982	-12.727	102.00	95.381
127	79.300	.97881	-1.5544	80.854	79.618
10870	79.300	.97881	-1.5544	80.854	79.618
2815	53.728	2.0956	-4.4665	58.194	55.206
8185	53.728	2.0956	-4.4665	58.194	55.206
5528	7.4136	-.27610	-21.086	28.500	25.538
5500	19.241	4.3335	.90501	18.336	16.885

Minimum safety factor = 12.7832876.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
285	2718.4	1164.4	-668.76	3387.1	2936.7
11028	2718.4	1164.4	-668.76	3387.1	2936.7
11027	2888.4	1252.4	-348.76	3237.2	2803.6
284	2888.4	1252.4	-348.76	3237.2	2803.6
11030	2906.3	1460.3	-181.96	3088.2	2676.3
287	2906.3	1460.3	-181.96	3088.2	2676.3
11029	2257.6	1291.0	-647.98	2905.6	2562.8
286	2257.6	1291.0	-647.98	2905.6	2562.8
11026	2626.5	1158.2	-193.48	2819.9	2442.8
283	2626.5	1158.2	-193.48	2819.9	2442.8
11025	2200.4	966.60	-45.392	2245.8	1948.1
282	2200.4	966.60	-45.392	2245.8	1948.1
2970	1395.0	699.71	-152.77	1547.7	1342.7
8340	1395.0	699.71	-152.77	1547.7	1342.7
2971	1282.3	875.84	-152.04	1434.3	1280.4
8341	1282.3	875.84	-152.04	1434.3	1280.4
5655	1170.7	675.94	-118.83	1289.5	1126.8
5656	1082.9	821.19	-168.72	1251.6	1143.4
2972	1103.2	846.96	-112.03	1215.2	1109.5
8342	1103.2	846.96	-112.03	1215.2	1109.5
5657	947.71	778.69	-138.47	1086.2	1012.3
2973	773.38	496.23	-195.93	969.30	864.71
8343	773.38	496.23	-195.93	969.30	864.71
5658	685.23	448.91	-231.91	917.14	824.77
8344	625.85	211.29	-98.836	724.69	629.77
2974	625.85	211.29	-98.836	724.69	629.77
5659	526.78	69.057	-195.04	721.82	632.57
2975	679.06	499.48	37.130	641.93	573.63
8345	667.66	498.15	33.933	633.73	568.26
10792	80.227	-331.02	-548.64	628.87	553.15
49	80.227	-331.02	-548.64	628.87	553.15
10793	71.212	-359.98	-508.12	579.33	521.29
50	71.212	-359.98	-508.12	579.33	521.29
8107	71.712	-299.14	-498.04	569.76	500.86
2737	71.712	-299.14	-498.04	569.76	500.86
8108	81.692	-302.09	-459.66	541.36	482.28
2738	81.692	-302.09	-459.66	541.36	482.28

Table 3.AB.4 (continued)

51	71.734	-300.29	-429.95	501.68	451.05
10794	71.734	-300.29	-429.95	501.68	451.05
5422	64.077	-278.51	-432.36	496.43	440.16
5660	472.17	444.62	-17.335	489.50	476.33
5423	90.599	-264.18	-384.66	475.25	427.93
8109	87.490	-234.66	-380.48	467.97	414.75
2739	87.490	-234.66	-380.48	467.97	414.75
52	138.00	-136.19	-299.30	437.30	382.77
10795	138.00	-136.19	-299.30	437.30	382.77
10796	190.33	-14.200	-229.64	419.97	363.75
53	190.33	-14.200	-229.64	419.97	363.75
5424	99.798	-179.65	-315.58	415.38	366.82
2740	139.29	-83.465	-261.16	400.45	347.53
8110	139.29	-83.465	-261.16	400.45	347.53
194	351.24	-5.5170	-36.810	388.05	373.39
10937	351.24	-5.5170	-36.810	388.05	373.39
5425	139.81	-36.627	-222.06	361.87	313.42
8111	90.749	-44.738	-254.72	345.47	301.50
2741	90.749	-44.738	-254.72	345.47	301.50
5426	48.574	-135.59	-278.82	327.39	284.27
166	220.45	-7.0570	-17.067	237.52	232.68
10909	220.45	-7.0570	-17.067	237.52	232.68
10797	82.496	-8.2776	-129.30	211.79	184.04
54	82.496	-8.2776	-129.30	211.79	184.04
2742	58.775	-4.2587	-147.07	205.85	182.68
8112	57.714	-4.2034	-147.08	204.79	181.92
5427	48.589	2.7188	-142.96	191.55	173.23
138	154.43	-3.9795	-11.022	165.45	162.04
10881	154.43	-3.9795	-11.022	165.45	162.04
2882	141.21	.81907	-23.447	164.66	153.97
8252	139.89	1.3777	-23.610	163.50	152.55
2854	116.82	1.0248	-5.3212	122.14	119.10
8224	116.37	1.5197	-5.2625	121.63	118.38
2826	87.926	1.9713	-1.8594	89.786	87.933
8196	87.407	1.8647	-2.0165	89.424	87.548
5511	32.576	16.426	.71519	31.861	27.593
5539	27.559	21.787	3.4011	24.157	21.851
5567	15.051	11.360	2.7320	12.319	10.951

Minimum safety factor = 7.76467707.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	1175.5	1146.6	-538.77	1714.2	1700.0
27	497.56	-807.68	-941.43	1439.0	1377.0

Minimum safety factor = 18.8423141.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.4 (continued)

288	986.18	-31.013	-334.45	1320.6	1198.1
11031	986.18	-31.013	-334.45	1320.6	1198.1
10938	401.58	37.012	-8.5152	410.10	389.34
195	401.58	37.012	-8.5152	410.10	389.34
167	276.37	52.925	-7.4534	283.82	258.97
10910	276.37	52.925	-7.4534	283.82	258.97
5661	184.71	-12.586	-24.203	208.92	203.36
139	202.66	32.438	-4.3466	207.01	191.29
10882	202.66	32.438	-4.3466	207.01	191.29
8346	149.70	26.888	-42.918	192.62	168.91
2976	149.72	27.146	-38.796	188.51	165.70
5428	30.450	2.5089	-156.74	187.19	174.90
8113	28.479	-1.3284	-134.28	162.76	150.09
2743	28.116	.95382	-134.27	162.38	150.65
2883	119.00	19.232	-37.880	156.88	137.53
8253	108.76	-17.592	-39.716	148.48	138.74
55	42.654	1.1365	-94.059	136.71	121.40
10798	42.654	1.1365	-94.059	136.71	121.40
8225	112.48	-2.7178	-18.134	130.61	123.62
2855	123.10	18.519	-3.1887	126.29	116.95
8197	100.81	3.7124	-10.854	111.66	105.14
2827	107.15	11.096	3.5141	103.64	100.06
5568	4.4379	-64.646	-83.874	88.312	80.441
5540	4.2313	-27.262	-55.150	59.381	51.457
5512	17.234	-.14158	-28.398	45.633	39.892

Minimum safety factor = 13.2512733.

Table 3.AB.5

LANDS

Total compressive force = -3357861.28

Total friction force = 134353.576

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5151.4	.00000
412	-5327.9	.00000
429	-5532.7	.00000
430	-5917.9	.00000
841	-5519.6	.00000
842	-5867.0	.00000
859	-5526.0	.00000
860	-5901.9	.00000
1271	-5513.0	.00000
1272	-5854.3	.00000
1289	-5524.2	.00000
1290	-5893.9	.00000
1701	-5514.8	.00000
1702	-5852.6	.00000
1719	-5526.4	.00000
1720	-5893.7	.00000
2131	-5518.9	.00000
2132	-5855.1	.00000
2149	-5529.8	.00000
2150	-5896.0	.00000
2561	-5522.6	.00000
2562	-5857.8	.00000
2579	-5532.3	.00000
2580	-5898.0	.00000
2991	-5525.1	.00000
2992	-5859.5	.00000
3009	-5533.9	.00000
3010	-5899.1	.00000
3421	-5526.6	.00000
3422	-5860.4	.00000
3439	-5534.7	.00000
3440	-5899.6	.00000
3851	-5527.3	.00000
3852	-5860.8	.00000
3869	-5535.1	.00000
3870	-5899.8	.00000
4281	-5527.6	.00000
4282	-5860.9	.00000
4299	-5535.3	.00000

4300	-5899.8	.00000
4711	-5527.7	.00000
4712	-5861.0	.00000
4729	-5535.3	.00000
4730	-5899.8	.00000
5141	-5527.6	.00000
5142	-5860.9	.00000
5159	-5535.1	.00000
5160	-5899.8	.00000
5571	-5527.3	.00000
5572	-5860.8	.00000
5589	-5534.7	.00000
5590	-5899.6	.00000
6001	-5526.6	.00000
6002	-5860.4	.00000
6019	-5533.9	.00000
6020	-5899.1	.00000
6431	-5525.1	.00000
6432	-5859.5	.00000
6449	-5532.3	.00000
6450	-5898.0	.00000
6861	-5522.6	.00000
6862	-5857.8	.00000
6879	-5529.8	.00000
6880	-5896.0	.00000
7291	-5518.9	.00000
7292	-5855.1	.00000
7309	-5526.4	.00000
7310	-5893.7	.00000
7721	-5514.8	.00000
7722	-5852.6	.00000
7739	-5524.2	.00000
7740	-5893.9	.00000
8151	-5513.0	.00000
8152	-5854.3	.00000
8169	-5526.0	.00000
8170	-5901.9	.00000
8581	-5519.6	.00000
8582	-5867.0	.00000
8599	-5532.7	.00000
8600	-5917.9	.00000
8635	-5151.4	.00000
8636	-5327.9	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
7704	89487.
1684	89487.

2114	89474.
7274	89474.
6844	89444.
2544	89444.
2974	89426.
6414	89426.
4694	89421.
4264	89421.
5124	89421.
3404	89420.
5984	89420.
3834	89420.
5554	89420.
8134	89353.
1254	89353.
8564	88881.
824	88881.
394	88233.
8618	88233.

LID

NODE	S1	S2	S3	SINT	SEQV
501	5073.6	4853.3	-2252.4	7326.0	7218.4
479	2159.0	-4150.3	-4195.1	6354.1	6331.8

Minimum safety factor = 9.25470119.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
10790	27725.	-3456.2	-5046.4	32772.	32006.
47	27725.	-3456.2	-5046.4	32772.	32006.
8105	27688.	-3450.9	-5016.7	32704.	31950.
2735	27688.	-3450.9	-5016.7	32704.	31950.
5420	27651.	-3445.3	-4987.8	32638.	31895.
10792	4074.4	-7299.3	-12834.	16909.	14932.
49	4074.4	-7299.3	-12834.	16909.	14932.
8107	4040.1	-7312.2	-12750.	16790.	14839.
2737	4040.1	-7312.2	-12750.	16790.	14839.
5422	4036.8	-7298.7	-12721.	16758.	14811.
11025	7911.7	3171.4	427.91	7483.8	6557.6
282	7911.7	3171.4	427.91	7483.8	6557.6
8340	7086.4	3321.0	507.97	6578.5	5717.0
2970	7086.4	3321.0	507.97	6578.5	5717.0
5655	7087.2	3210.4	510.49	6576.7	5725.9
184	6157.0	545.86	-88.218	6245.2	5953.5
10927	6157.0	545.86	-88.218	6245.2	5953.5
8242	6035.8	385.35	-82.588	6118.4	5898.4
2872	6035.8	385.35	-82.588	6118.4	5898.4
182	5976.9	266.97	-90.389	6067.2	5896.7

Table 3.AB.5 (continued)

10925	5976.9	266.97	-90.389	6067.2	5896.7
2870	5953.5	448.03	-89.143	6042.6	5792.7
8240	5953.5	448.03	-89.143	6042.6	5792.7
5555	5897.3	538.13	-85.310	5982.6	5696.5
5557	5882.3	306.99	-83.245	5965.5	5780.3
156	5449.8	540.24	-78.812	5528.6	5246.5
10899	5449.8	540.24	-78.812	5528.6	5246.5
8214	5377.4	439.33	-74.462	5451.8	5214.0
2844	5377.4	439.33	-74.462	5451.8	5214.0
154	5350.4	367.78	-85.042	5435.4	5223.8
10897	5350.4	367.78	-85.042	5435.4	5223.8
2842	5347.0	475.15	-81.400	5428.4	5172.7
8212	5347.0	475.15	-81.400	5428.4	5172.7
5527	5338.0	593.32	-79.969	5418.0	5114.7
5529	5289.4	338.41	-76.814	5366.2	5171.2
5499	4845.1	623.35	-134.97	4980.1	4647.5
2814	4840.0	559.89	-135.24	4975.3	4666.7
8184	4840.0	559.89	-135.24	4975.3	4666.7
126	4835.2	502.18	-140.01	4975.2	4687.3
10869	4835.2	502.18	-140.01	4975.2	4687.3
128	4601.3	527.71	-.53959	4601.8	4361.7
10871	4601.3	527.71	-.53959	4601.8	4361.7
8186	4567.6	468.17	4.3248	4563.3	4349.9
2816	4567.6	468.17	4.3248	4563.3	4349.9
5501	4534.2	411.91	4.6952	4529.5	4340.2
11023	3198.6	1408.1	418.72	2779.9	2440.6
280	3198.6	1408.1	418.72	2779.9	2440.6
8338	3177.5	2477.3	417.84	2759.7	2484.7
2968	3177.5	2477.3	417.84	2759.7	2484.7
5653	3147.5	2256.4	412.16	2735.3	2416.3

Minimum safety factor = 2.206181.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
48	9068.3	-4322.1	-11256.	20325.	17895.
10791	9068.3	-4322.1	-11256.	20325.	17895.
2736	9056.6	-4371.8	-11168.	20225.	17826.
8106	9056.6	-4371.8	-11168.	20225.	17826.
5421	9047.5	-4364.1	-11138.	20185.	17793.
10926	6069.4	412.19	-89.197	6158.6	5923.8
183	6069.4	412.19	-89.197	6158.6	5923.8
281	6584.8	2746.2	442.34	6142.5	5374.6
11024	6584.8	2746.2	442.34	6142.5	5374.6
2871	5995.1	415.37	-85.637	6080.7	5846.3
8241	5995.1	415.37	-85.637	6080.7	5846.3
5556	5889.1	417.60	-84.203	5973.3	5738.8
2969	6085.2	3194.4	447.28	5637.9	4883.1
8339	6085.2	3194.4	447.28	5637.9	4883.1
5654	6070.6	3040.2	445.03	5625.6	4876.7
10898	5401.2	457.44	-81.810	5483.0	5234.2

Table 3.AB.5 (continued)

155	5401.2	457.44	-81.810	5483.0	5234.2
8213	5362.0	456.31	-77.792	5439.8	5193.4
2843	5362.0	456.31	-77.792	5439.8	5193.4
5528	5312.1	460.31	-78.361	5390.5	5142.4
127	4707.3	508.93	-72.652	4780.0	4517.3
10870	4707.3	508.93	-72.652	4780.0	4517.3
8185	4692.1	505.63	-67.831	4759.9	4500.7
2815	4692.1	505.63	-67.831	4759.9	4500.7
5500	4677.3	506.69	-67.481	4744.7	4485.3

Minimum safety factor = 2.37148249.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
10792	4074.4	-7299.3	-12834.	16909.	14932.
49	4074.4	-7299.3	-12834.	16909.	14932.
8107	4040.1	-7312.2	-12750.	16790.	14839.
2737	4040.1	-7312.2	-12750.	16790.	14839.
5422	4036.8	-7298.7	-12721.	16758.	14811.
10793	3400.0	-7353.8	-11877.	15277.	13592.
50	3400.0	-7353.8	-11877.	15277.	13592.
8108	3370.5	-7339.5	-11804.	15174.	13507.
2738	3370.5	-7339.5	-11804.	15174.	13507.
5423	3376.0	-7315.3	-11773.	15149.	13484.
51	2654.8	-5636.3	-10196.	12851.	11285.
10794	2654.8	-5636.3	-10196.	12851.	11285.
2739	2631.4	-5610.7	-10133.	12764.	11210.
8109	2631.4	-5610.7	-10133.	12764.	11210.
5424	2637.8	-5579.8	-10104.	12742.	11188.
10796	1718.2	-6330.0	-9019.6	10738.	9677.5
53	1718.2	-6330.0	-9019.6	10738.	9677.5
5426	1641.5	-6443.9	-8985.3	10627.	9611.5
8111	1651.0	-6386.9	-8973.1	10624.	9596.1
2741	1651.0	-6386.9	-8973.1	10624.	9596.1
10795	2641.4	-1785.6	-7661.5	10303.	8952.0
52	2641.4	-1785.6	-7661.5	10303.	8952.0
8110	2614.8	-1770.5	-7604.1	10219.	8879.4
2740	2614.8	-1770.5	-7604.1	10219.	8879.4
5425	2611.9	-1743.5	-7584.8	10197.	8861.8
11029	8374.3	2905.1	-329.22	8703.5	7619.9
286	8374.3	2905.1	-329.22	8703.5	7619.9
284	7905.0	2889.7	-.68976	7905.6	6928.4
11027	7905.0	2889.7	-.68976	7905.6	6928.4
287	8308.7	2250.9	422.63	7886.1	7149.5
11030	8308.7	2250.9	422.63	7886.1	7149.5
11028	7245.1	2436.2	-566.78	7811.8	6825.3
285	7245.1	2436.2	-566.78	7811.8	6825.3
11026	8037.8	3136.9	378.13	7659.7	6719.4
283	8037.8	3136.9	378.13	7659.7	6719.4
11025	7911.7	3171.4	427.91	7483.8	6557.6
282	7911.7	3171.4	427.91	7483.8	6557.6

Table 3.AB.5 (continued)

8344	7384.2	2485.1	-30.423	7414.6	6530.9
2974	7384.2	2485.1	-30.423	7414.6	6530.9
5659	7279.2	2441.6	-50.534	7329.7	6455.1
8340	7086.4	3321.0	507.97	6578.5	5717.0
2970	7086.4	3321.0	507.97	6578.5	5717.0
5655	7087.2	3210.4	510.49	6576.7	5725.9
8341	7064.4	3130.3	553.52	6510.9	5679.3
2971	7064.4	3130.3	553.52	6510.9	5679.3
5656	7026.9	3034.2	551.47	6475.4	5658.5
8342	6757.1	2747.9	291.68	6465.4	5652.8
2972	6757.1	2747.9	291.68	6465.4	5652.8
5657	6718.1	2674.3	279.06	6439.0	5636.9
2975	6839.4	1930.1	428.13	6411.2	5807.8
8345	6832.9	1930.1	426.61	6406.3	5802.5
5660	6729.6	1908.1	402.55	6327.0	5724.7
2973	6050.9	2169.7	-203.10	6254.0	5468.3
8343	6050.9	2169.7	-203.10	6254.0	5468.3
5658	6023.6	2126.5	-218.34	6241.9	5461.1
2742	1411.4	-56.120	-4127.0	5538.4	4969.9
8112	1410.8	-56.078	-4127.0	5537.8	4969.5
5427	1407.2	-52.921	-4125.6	5532.8	4966.4
10797	1862.7	17.431	-3630.3	5493.0	4841.7
54	1862.7	17.431	-3630.3	5493.0	4841.7
10937	3078.6	54.642	-26.280	3104.8	3065.2
194	3078.6	54.642	-26.280	3104.8	3065.2
2882	2687.7	81.584	-13.020	2700.7	2654.7
8252	2687.0	81.584	-12.735	2699.7	2653.8
5567	2627.2	94.787	-10.400	2637.6	2586.6
10909	2271.7	103.92	-24.641	2296.4	2234.9
166	2271.7	103.92	-24.641	2296.4	2234.9
2854	2017.4	134.46	-13.711	2031.1	1961.2
8224	2017.2	134.46	-13.424	2030.6	1960.8
5539	1975.1	145.00	-11.881	1987.0	1913.4
138	1264.9	186.53	-42.820	1307.7	1209.4
10881	1264.9	186.53	-42.820	1307.7	1209.4
2826	1123.1	230.19	-26.242	1149.3	1045.0
8196	1122.8	230.19	-26.379	1149.2	1044.8
5511	1096.1	237.57	-25.749	1121.8	1016.1

Minimum safety factor = 3.47157328.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	36486.	35109.	-16881.	53366.	52692.
27	15530.	-27127.	-28853.	44382.	43545.

Minimum safety factor = 1.27046285.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.5 (continued)

55	1367.1	107.76	-3245.5	4612.6	4129.5
10798	1367.1	107.76	-3245.5	4612.6	4129.5
5428	812.74	13.086	-3715.7	4528.4	4186.3
8113	811.17	11.093	-3703.8	4515.0	4172.9
2743	810.89	12.336	-3703.8	4514.7	4173.1
195	3185.7	95.061	-28.738	3214.5	3154.4
10938	3185.7	95.061	-28.738	3214.5	3154.4
8253	2745.8	79.710	-23.383	2769.2	2719.1
2883	2751.4	79.715	-4.5291	2755.9	2714.8
5568	2657.4	59.005	-12.025	2669.4	2634.6
167	2276.9	123.63	-21.499	2298.4	2229.4
10910	2276.9	123.63	-21.499	2298.4	2229.4
8225	1994.5	115.25	-18.757	2013.2	1949.7
2855	1999.9	115.25	-.72660	2000.6	1945.2
5540	1925.5	88.365	-7.8138	1933.3	1887.0
139	1794.3	267.75	-28.469	1822.7	1694.2
10882	1794.3	267.75	-28.469	1822.7	1694.2
288	957.64	437.46	-781.96	1739.6	1546.6
11031	957.64	437.46	-781.96	1739.6	1546.6
8197	1594.5	302.41	-17.249	1611.8	1478.1
2827	1597.7	302.41	-6.3794	1604.1	1474.1
5512	1552.1	285.95	-10.944	1563.1	1437.8
8346	521.86	33.174	-447.81	969.68	839.77
2976	522.80	33.174	-446.56	969.37	839.51
5661	503.83	51.178	-440.41	944.24	817.96

Minimum safety factor = 8.47686107.

Table 3.AB.6

LANDS

Total compressive force = -3080276.04

Total friction force = 826027.218

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5554.1	.00000
412	-5677.1	.00000
429	-6009.7	.00000
430	-6459.2	.00000
841	-6166.2	.00000
842	-6418.1	.00000
859	-5805.6	.00000
860	-6222.2	.00000
1271	-5768.0	.00000
1272	-6062.6	.00000
1289	-5534.9	.00000
1290	-5931.1	.00000
1701	-5413.9	.00000
1702	-5769.7	.00000
1719	-5330.2	.00000
1720	-5733.4	.00000
2131	-5189.5	.00000
2132	-5608.8	.00000
2149	-5215.5	.00000
2150	-5646.5	.00000
2561	-5076.5	.00000
2562	-5549.9	.00000
2579	-5168.9	.00000
2580	-5634.0	.00000
2991	-5037.7	.00000
2992	-5551.7	.00000
3009	-5179.0	.00000
3010	-5663.6	.00000
3421	-5066.5	.00000
3422	-5594.5	.00000
3439	-5213.8	.00000
3440	-5712.8	.00000
3851	-5108.7	.00000
3852	-5639.4	.00000
3869	-5251.7	.00000
3870	-5751.5	.00000
4281	-5157.8	.00000
4282	-5675.0	.00000
4299	-5288.8	.00000

Table 3.AB.6 (continued)

4300	-5780.8	.00000
4711	-5215.0	.00000
4712	-5711.5	.00000
4729	-5328.1	.00000
4730	-5808.7	.00000
5141	-5273.6	.00000
5142	-5746.6	.00000
5159	-5366.1	.00000
5160	-5833.5	.00000
5571	-5328.6	.00000
5572	-5778.1	.00000
5589	-5400.2	.00000
5590	-5854.5	.00000
6001	-5377.0	.00000
6002	-5805.3	.00000
6019	-5430.2	.00000
6020	-5872.9	.00000
6431	-5418.9	.00000
6432	-5829.5	.00000
6449	-5455.3	.00000
6450	-5888.7	.00000
6861	-5452.2	.00000
6862	-5848.9	.00000
6879	-5474.1	.00000
6880	-5900.4	.00000
7291	-5475.9	.00000
7292	-5862.5	.00000
7309	-5486.6	.00000
7310	-5908.2	.00000
7721	-5491.9	.00000
7722	-5872.2	.00000
7739	-5495.5	.00000
7740	-5915.8	.00000
8151	-5503.8	.00000
8152	-5882.2	.00000
8169	-5504.4	.00000
8170	-5928.9	.00000
8581	-5518.6	.00000
8582	-5900.4	.00000
8599	-5515.0	.00000
8600	-5948.3	.00000
8635	-5152.6	.00000
8636	-5346.1	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
2114	93517.
2544	93145.

2974	92028.
1684	91745.
3404	90460.
3834	89369.
4264	88875.
4694	88522.
5124	88240.
5554	88005.
5984	87782.
6414	87511.
6844	87240.
7274	87012.
7704	86803.
1254	86675.
8134	86498.
8564	85897.
8618	85175.
824	78960.
394	75263.

LID

NODE	S1	S2	S3	SINT	SEQV
501	14250.	2837.2	-4151.5	18401.	16089.
479	4139.7	-5243.4	-11429.	15568.	13577.

Minimum safety factor = 3.68449798.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
47	36336.	23596.	-6020.8	42356.	37640.
280	34050.	18579.	-368.19	34418.	29858.
2735	14656.	-3213.7	-14023.	28679.	25087.
2968	1777.8	-1653.8	-24806.	26584.	25045.
282	12004.	1745.3	-7261.2	19265.	16696.
2737	2687.9	-7180.4	-12734.	15422.	13529.
2970	2056.0	-952.70	-12956.	15012.	13757.
2816	14418.	7592.2	237.93	14180.	12283.
2872	14237.	7299.8	134.67	14103.	12214.
182	14724.	7584.5	1293.1	13431.	11639.
2844	13253.	8067.8	70.003	13183.	11503.
126	14304.	7603.2	1166.6	13138.	11378.
154	14212.	7954.7	1245.7	12966.	11231.
128	2898.9	947.19	-10056.	12955.	12098.
184	2972.0	756.51	-9903.7	12876.	11923.
156	2775.0	1263.3	-9703.5	12478.	11796.
5420	7107.3	-1109.8	-5113.3	12221.	10791.
2842	240.30	-300.92	-11224.	11464.	11204.
49	-1089.5	-7542.4	-12350.	11260.	9786.2
2870	-337.08	-741.52	-11419.	11082.	10885.

Table 3.AB.6 (continued)

2814	-372.57	-626.17	-11293.	10921.	10796.
8338	6172.6	393.99	-3716.5	9889.1	8604.8
5653	2428.4	-257.26	-6677.8	9106.1	8104.2
5422	1478.1	-2630.6	-5596.1	7074.2	6153.1
8105	5011.5	-9.2972	-1950.5	6962.0	6222.7
5655	3108.4	1229.5	-3680.2	6788.6	6071.3
8340	5101.9	1217.9	-1560.3	6662.2	5796.0
5499	4931.9	-99.734	-588.25	5520.2	5292.9
8107	3446.2	241.30	-1702.4	5148.6	4503.2
10899	12.317	-88.586	-4988.7	5001.1	4951.4
8184	2655.7	-96.512	-2249.8	4905.5	4258.8
8240	3092.8	-71.332	-1645.4	4738.2	4179.7
5555	3578.4	-84.689	-914.38	4492.7	4140.7
8212	2707.1	-52.025	-1617.2	4324.3	3792.2
10897	-21.245	-322.88	-4257.8	4236.6	4094.1
10927	-59.268	-177.41	-4074.7	4015.5	3957.7
11023	2922.3	223.38	-1053.3	3975.6	3515.7
8186	147.13	-116.70	-3654.3	3801.4	3676.6
8242	-104.96	-823.06	-3866.7	3761.7	3459.1
5557	3342.8	42.891	-143.71	3486.5	3397.0
8214	-144.27	-1953.1	-3574.6	3430.3	2972.2
10790	3483.3	714.92	172.63	3310.7	3075.6
10925	-56.720	-101.96	-3338.0	3281.3	3258.9
5501	2103.1	-62.400	-990.00	3093.1	2749.3
11025	2862.8	904.49	-228.80	3091.6	2709.0
10871	-64.766	-371.05	-3095.6	3030.8	2889.9
10792	3032.5	988.19	45.678	2986.9	2644.7
5529	2710.9	1239.9	-36.059	2747.0	2381.0
10869	-62.908	-218.44	-2506.7	2443.8	2369.8
5527	1981.6	896.82	-307.48	2289.1	1983.3

Minimum safety factor = 1.70694185.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
2969	1958.4	-1105.7	-16187.	18146.	16824.
281	14750.	6821.0	-3073.1	17823.	15466.
2736	3408.8	-3940.2	-13971.	17380.	15111.
48	7355.5	691.89	-5720.8	13076.	11325.
5421	2514.5	-1378.8	-5563.4	8078.0	6997.3
8339	5788.0	613.00	-1581.7	7369.7	6554.0
5654	2623.9	167.96	-3190.6	5814.5	5055.7
8106	4031.4	50.846	-1683.4	5714.8	5075.0
183	4473.1	3869.3	-933.89	5407.0	5131.8
127	4291.5	3978.1	-1112.3	5403.8	5254.2
155	4317.0	4210.4	-924.85	5241.9	5189.4
10898	-7.8573	-195.97	-4621.9	4614.1	4523.0
2843	4294.2	1470.8	-115.80	4410.0	3868.9
8185	1346.7	-105.80	-2959.6	4306.3	3794.6
5500	3412.0	-89.405	-749.37	4161.4	3873.8
2815	4029.5	1624.6	-67.263	4096.7	3565.7

2871	3896.5	1409.8	-95.966	3992.5	3492.2
5556	3456.4	-39.705	-496.27	3952.6	3745.3
8241	998.89	-89.495	-2732.4	3731.3	3323.5
10926	-58.523	-140.74	-3707.4	3648.9	3608.5
11024	3112.4	435.44	21.420	3091.0	2906.2
8213	287.45	-101.70	-2622.9	2910.3	2736.6
10791	3034.6	875.08	181.87	2852.8	2577.1
10870	-63.906	-295.68	-2802.0	2738.1	2629.9
5528	2345.6	1071.7	-153.27	2498.9	2164.3

Minimum safety factor = 2.65626873.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
51	-826.03	-28445.	-40440.	39614.	35185.
284	17517.	-7814.9	-17153.	34670.	31072.
287	11351.	1716.0	-20973.	32324.	28744.
283	15135.	-7937.7	-9517.5	24653.	23902.
50	198.97	-17449.	-23652.	23851.	21434.
54	-3810.1	-24353.	-26209.	22399.	21531.
282	12004.	1745.3	-7261.2	19265.	16696.
2737	2687.9	-7180.4	-12734.	15422.	13529.
2970	2056.0	-952.70	-12956.	15012.	13757.
2738	2998.5	-8062.9	-11352.	14351.	13021.
2971	2534.9	62.621	-10806.	13341.	12293.
2739	2888.2	-6598.3	-9613.3	12502.	11300.
2972	3320.1	1302.7	-8568.9	11889.	11020.
2741	8593.6	-556.49	-2764.8	11358.	10431.
49	-1089.5	-7542.4	-12350.	11260.	9786.2
2740	4254.4	-3564.8	-6316.6	10571.	9498.9
2973	4265.4	2850.9	-5622.7	9888.1	9262.2
5659	6597.8	1454.8	-3063.7	9661.6	8373.0
2974	7483.0	4293.4	-2156.8	9639.8	8506.0
5426	4691.7	257.83	-4915.7	9607.5	8328.5
5658	4967.4	2149.2	-3997.3	8964.8	7940.1
5657	4845.0	2605.1	-4085.9	8930.9	8048.2
5656	4339.3	2070.0	-4355.5	8694.8	7811.4
5660	6747.6	3017.0	-1367.3	8114.9	7035.3
5425	3026.4	-829.64	-4979.8	8006.2	6935.1
8111	2645.9	-803.34	-5290.1	7936.0	6892.4
5423	1901.5	-2663.7	-5542.6	7444.1	6501.7
5424	2119.3	-1964.8	-5248.5	7367.8	6393.3
2975	5826.5	4632.7	-1473.7	7300.2	6782.5
5422	1478.1	-2630.6	-5596.1	7074.2	6153.1
5655	3108.4	1229.5	-3680.2	6788.6	6071.3
8340	5101.9	1217.9	-1560.3	6662.2	5796.0
8344	2015.3	-189.65	-4561.6	6576.9	5797.9
8341	4240.1	1507.0	-2111.0	6351.1	5518.0
8110	3011.7	-182.77	-3181.4	6193.1	5364.3
10796	1373.6	-970.73	-4702.0	6075.6	5307.1
8342	3464.7	1342.1	-2508.8	5973.5	5244.9

Table 3.AB.6 (continued)

8343	2657.7	607.58	-3300.9	5958.6	5243.3
8107	3446.2	241.30	-1702.4	5148.6	4503.2
8109	2976.6	121.48	-2152.7	5129.3	4451.6
8108	3131.9	305.84	-1900.2	5032.0	4368.9
10795	2453.5	-120.16	-1776.7	4230.1	3692.0
10909	243.78	-32.897	-3893.2	4136.9	4005.8
10937	124.05	-12.719	-3659.3	3783.4	3716.9
8345	1193.5	-276.39	-2580.3	3773.8	3294.7
11029	77.445	-903.35	-3638.7	3716.2	3335.7
2882	3552.5	282.86	-114.33	3666.9	3485.3
5427	1135.0	-235.16	-2406.2	3541.1	3092.8
10794	2863.8	525.22	-664.74	3528.5	3109.3
10881	193.29	-73.351	-3109.8	3303.1	3178.2
2742	840.10	-1218.3	-2456.9	3297.0	2884.6
10793	2999.6	892.74	-266.44	3266.0	2867.9
10797	1413.5	239.67	-1734.0	3147.5	2755.0
11026	2330.9	815.24	-781.68	3112.6	2695.9
11025	2862.8	904.49	-228.80	3091.6	2709.0
138	4540.4	1854.9	1486.6	3053.9	2887.4
2826	2967.6	546.94	-49.656	3017.2	2767.6
10792	3032.5	988.19	45.678	2986.9	2644.7
194	4707.7	2195.5	1737.6	2970.0	2769.6
11028	992.76	-287.62	-1976.1	2968.9	2579.2
8112	1324.3	-16.632	-1643.4	2967.7	2574.0
11027	1740.5	419.43	-1193.4	2933.9	2545.0
11030	222.92	-484.86	-2617.9	2840.8	2561.4
2854	2690.4	675.08	-137.28	2827.7	2521.7
166	4569.4	2122.8	1961.9	2607.5	2530.9
5567	2138.0	-17.993	-397.97	2535.9	2368.9
8196	568.91	94.767	-1847.2	2416.1	2217.4
8224	283.62	47.545	-1961.0	2244.6	2136.4
5511	1775.3	28.666	-463.40	2238.7	2037.8
5539	1762.2	-43.176	-325.55	2087.8	1961.9
8252	242.23	91.170	-1811.3	2053.5	1982.3

Minimum safety factor = 1.48179936.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	9528.7	-1974.2	-4084.4	13613.	12690.
27	2467.9	-1282.3	-8789.0	11257.	9928.1

Minimum safety factor = 4.98051422.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV
288	1720.7	752.29	-23483.	25204.	24734.
55	1578.5	-699.34	-20955.	22533.	21485.
2976	7625.5	945.94	-1724.4	9349.9	8341.7
2827	5860.1	2598.3	-870.92	6731.1	5830.2

Table 3.AB.6 (continued)

2883	5263.4	2627.3	-1182.1	6445.5	5612.7
10938	-14.872	-503.84	-4948.0	4933.2	4707.8
10910	-34.831	-261.66	-4875.5	4840.6	4731.3
2855	3530.0	3141.5	-1211.6	4741.6	4559.8
5661	3570.5	-305.10	-982.21	4552.7	4254.8
10882	-64.208	-278.40	-4261.4	4197.2	4094.3
195	347.38	-573.02	-2821.0	3168.4	2823.1
167	325.06	-531.44	-2704.6	3029.7	2705.1
8253	91.902	-718.34	-2815.5	2907.4	2598.8
5568	3407.9	1186.6	558.82	2849.1	2592.8
5540	3303.2	1287.7	520.24	2782.9	2489.6
8197	43.220	-362.99	-2682.1	2725.3	2546.6
10798	1526.6	179.96	-1145.4	2671.9	2314.0
8225	37.401	-696.46	-2631.2	2668.6	2387.8
139	288.90	-630.78	-2376.8	2665.7	2345.3
8346	630.99	181.44	-1625.2	2256.2	2068.4
11031	509.08	419.92	-1416.5	1925.6	1882.6
5512	2417.4	927.59	516.09	1901.3	1732.6
5428	486.99	21.020	-1294.8	1781.8	1600.5
8113	886.32	106.23	-718.86	1605.2	1390.3
2743	917.69	139.45	-553.46	1471.1	1274.8

Minimum safety factor = 1.55136233.

Table 3.AB.7

LANDS

Total compressive force = -3313265.22

Total friction force = 779242.023

SEALS
Components: Element, Vertical, Status
Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5207.2	.00000
412	-5278.8	.00000
429	-5576.4	.00000
430	-5774.6	.00000
841	-5647.6	.00000
842	-5791.6	.00000
859	-5576.8	.00000
860	-5776.0	.00000
1271	-5647.8	.00000
1272	-5792.3	.00000
1289	-5576.8	.00000
1290	-5776.2	.00000
1701	-5647.4	.00000
1702	-5791.9	.00000
1719	-5576.5	.00000
1720	-5775.9	.00000
2131	-5647.1	.00000
2132	-5791.6	.00000
2149	-5576.3	.00000
2150	-5775.7	.00000
2561	-5647.0	.00000
2562	-5791.6	.00000
2579	-5576.3	.00000
2580	-5775.7	.00000
2991	-5647.0	.00000
2992	-5791.5	.00000
3009	-5576.3	.00000
3010	-5775.7	.00000
3421	-5647.0	.00000
3422	-5791.5	.00000
3439	-5576.3	.00000
3440	-5775.7	.00000
3851	-5647.0	.00000
3852	-5791.6	.00000
3869	-5576.3	.00000
3870	-5775.7	.00000
4281	-5647.0	.00000
4282	-5791.6	.00000
4299	-5576.3	.00000

Table 3.AB.7 (continued)

4300	-5775.7	.00000
4711	-5647.0	.00000
4712	-5791.6	.00000
4729	-5576.3	.00000
4730	-5775.7	.00000
5141	-5647.0	.00000
5142	-5791.6	.00000
5159	-5576.3	.00000
5160	-5775.7	.00000
5571	-5647.0	.00000
5572	-5791.6	.00000
5589	-5576.3	.00000
5590	-5775.7	.00000
6001	-5647.0	.00000
6002	-5791.5	.00000
6019	-5576.3	.00000
6020	-5775.7	.00000
6431	-5647.0	.00000
6432	-5791.5	.00000
6449	-5576.3	.00000
6450	-5775.7	.00000
6861	-5647.0	.00000
6862	-5791.6	.00000
6879	-5576.3	.00000
6880	-5775.7	.00000
7291	-5647.1	.00000
7292	-5791.6	.00000
7309	-5576.5	.00000
7310	-5775.9	.00000
7721	-5647.4	.00000
7722	-5791.9	.00000
7739	-5576.8	.00000
7740	-5776.2	.00000
8151	-5647.8	.00000
8152	-5792.3	.00000
8169	-5576.8	.00000
8170	-5776.0	.00000
8581	-5647.6	.00000
8582	-5791.6	.00000
8599	-5576.4	.00000
8600	-5774.6	.00000
8635	-5207.2	.00000
8636	-5278.8	.00000

BOLTS
Components: Maximum Stress

STAT	MIXED
ELEM	SEXT
394	89366.
8618	89366.

824	89309.
8564	89309.
2974	89300.
6414	89300.
6844	89300.
2544	89300.
3404	89299.
5984	89299.
3834	89299.
5554	89299.
5124	89298.
4264	89298.
4694	89298.
2114	89298.
7274	89298.
1684	89293.
7704	89293.
1254	89285.
8134	89285.

LID

NODE	S1	S2	S3	SINT	SEQV
479	4132.3	-22351.	-22397.	26529.	26506.
501	-3370.4	-4340.2	-5564.2	2193.9	1904.2

Minimum safety factor = 2.55569208.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
10925	-397.59	-18870.	-19802.	19404.	18956.
182	-397.59	-18870.	-19802.	19404.	18956.
5555	-517.90	-18870.	-19683.	19165.	18772.
8240	-517.88	-18870.	-19681.	19163.	18771.
2870	-517.88	-18870.	-19681.	19163.	18771.
10897	-352.01	-17116.	-19366.	19014.	17995.
154	-352.01	-17116.	-19366.	19014.	17995.
5527	-469.08	-17116.	-19250.	18780.	17810.
8212	-469.09	-17116.	-19249.	18780.	17809.
2842	-469.09	-17116.	-19249.	18780.	17809.
10869	-265.54	-15605.	-18912.	18646.	17233.
126	-265.54	-15605.	-18912.	18646.	17233.
5499	-380.94	-15606.	-18797.	18416.	17046.
8184	-380.95	-15605.	-18796.	18415.	17045.
2814	-380.95	-15605.	-18796.	18415.	17045.
280	-1220.0	-7879.1	-19372.	18152.	15905.
11023	-1220.0	-7879.1	-19372.	18152.	15905.
8338	-1323.0	-7857.0	-19263.	17940.	15727.
2968	-1323.0	-7857.0	-19263.	17940.	15727.
5653	-1323.1	-7856.3	-19259.	17936.	15723.

Table 3.AB.7 (continued)

47	5359.7	-3014.5	-8773.0	14133.	12309.
10790	5359.7	-3014.5	-8773.0	14133.	12309.
5420	5359.5	-3035.1	-8752.2	14112.	12294.
2735	5359.5	-3035.1	-8752.2	14112.	12294.
8105	5359.5	-3035.1	-8752.2	14112.	12294.
11025	-1842.0	-11165.	-12556.	10714.	10090.
282	-1842.0	-11165.	-12556.	10714.	10090.
8340	-1891.3	-11192.	-12508.	10617.	10024.
2970	-1891.3	-11192.	-12508.	10617.	10024.
5655	-1891.4	-11193.	-12506.	10615.	10023.
184	-891.48	-10239.	-10246.	9354.4	9350.7
10927	-891.48	-10239.	-10246.	9354.4	9350.7
8242	-949.70	-10181.	-10246.	9296.6	9264.2
2872	-949.70	-10181.	-10246.	9296.6	9264.2
5557	-949.67	-10180.	-10245.	9295.8	9263.2
10899	-848.30	-8600.9	-9869.6	9021.3	8458.6
156	-848.30	-8600.9	-9869.6	9021.3	8458.6
2844	-903.86	-8600.9	-9814.0	8910.2	8369.8
8214	-903.86	-8600.9	-9814.0	8910.2	8369.8
5529	-903.88	-8600.9	-9813.5	8909.6	8369.5
10871	-723.72	-6717.6	-9327.8	8604.1	7641.0
128	-723.72	-6717.6	-9327.8	8604.1	7641.0
2816	-777.14	-6717.6	-9274.3	8497.2	7550.7
8186	-777.14	-6717.6	-9274.3	8497.2	7550.7
5501	-777.13	-6717.6	-9274.1	8497.0	7550.6
49	-2314.3	-5918.1	-10505.	8190.3	7110.0
10792	-2314.3	-5918.1	-10505.	8190.3	7110.0
5422	-2320.0	-5917.4	-10500.	8180.2	7101.4
8107	-2319.9	-5917.3	-10500.	8180.1	7101.3
2737	-2319.9	-5917.3	-10500.	8180.1	7101.3

Minimum safety factor = 3.72594819.

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
11024	-1816.3	-12756.	-17963.	16146.	14274.
281	-1816.3	-12756.	-17963.	16146.	14274.
8339	-1915.7	-12760.	-17866.	15950.	14108.
2969	-1915.7	-12760.	-17866.	15950.	14108.
5654	-1915.9	-12760.	-17863.	15947.	14106.
10926	-644.95	-14574.	-14938.	14293.	14115.
183	-644.95	-14574.	-14938.	14293.	14115.
5556	-733.69	-14574.	-14849.	14116.	13980.
8241	-733.69	-14574.	-14849.	14116.	13980.
2871	-733.69	-14574.	-14849.	14116.	13980.
10898	-600.07	-12878.	-14537.	13937.	13186.
155	-600.07	-12878.	-14537.	13937.	13186.
5528	-685.89	-12879.	-14451.	13766.	13050.
8213	-685.89	-12879.	-14451.	13766.	13050.
2843	-685.89	-12879.	-14451.	13766.	13050.
10870	-495.03	-11185.	-14040.	13545.	12368.

Table 3.AB.7 (continued)

127	-495.03	-11185.	-14040.	13545.	12368.
5500	-578.94	-11185.	-13957.	13378.	12230.
8185	-578.95	-11185.	-13957.	13378.	12230.
2815	-578.95	-11185.	-13957.	13378.	12230.
48	-2903.3	-9027.9	-11817.	8914.2	7897.9
10791	-2903.3	-9027.9	-11817.	8914.2	7897.9
5421	-2952.0	-9049.7	-11747.	8795.4	7804.4
8106	-2952.0	-9049.6	-11747.	8795.3	7804.4
2736	-2952.0	-9049.6	-11747.	8795.3	7804.4

Minimum safety factor = 2.98517432.

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
10796	21971.	20100.	-2209.1	24180.	23301.
53	21971.	20100.	-2209.1	24180.	23301.
5426	21831.	20116.	-2084.3	23915.	23105.
8111	21831.	20115.	-2084.3	23915.	23105.
2741	21831.	20115.	-2084.3	23915.	23105.
10795	13645.	6233.5	-5594.4	19240.	16808.
52	13645.	6233.5	-5594.4	19240.	16808.
5425	13547.	6234.0	-5497.2	19045.	16640.
8110	13547.	6234.0	-5497.1	19045.	16640.
2740	13547.	6234.0	-5497.1	19045.	16640.
286	14299.	10825.	-1189.3	15488.	14076.
11029	14299.	10825.	-1189.3	15488.	14076.
5659	14195.	10756.	-1135.7	15331.	13933.
8344	14194.	10756.	-1136.2	15330.	13933.
2974	14194.	10756.	-1136.2	15330.	13933.
5427	11198.	230.36	-3081.6	14280.	12946.
2742	11198.	230.36	-3081.6	14280.	12946.
8112	11198.	230.36	-3081.6	14280.	12946.
51	6208.2	-189.80	-8027.5	14236.	12350.
10794	6208.2	-189.80	-8027.5	14236.	12350.
5424	6128.6	-188.03	-7950.0	14079.	12214.
2739	6128.6	-187.99	-7949.9	14078.	12214.
8109	6128.6	-187.99	-7949.9	14078.	12214.
54	9846.1	-246.31	-4077.0	13923.	12458.
10797	9846.1	-246.31	-4077.0	13923.	12458.
287	12916.	8856.8	-732.72	13649.	12139.
11030	12916.	8856.8	-732.72	13649.	12139.
5660	12339.	9773.7	-228.51	12568.	11502.
8345	12338.	9773.4	-228.99	12567.	11501.
2975	12338.	9773.4	-229.01	12567.	11501.
282	-1842.0	-11165.	-12556.	10714.	10090.
11025	-1842.0	-11165.	-12556.	10714.	10090.
8340	-1891.3	-11192.	-12508.	10617.	10024.
2970	-1891.3	-11192.	-12508.	10617.	10024.
5655	-1891.4	-11193.	-12506.	10615.	10023.
11028	4522.6	4051.0	-3984.9	8507.5	8281.7
285	4522.6	4051.0	-3984.9	8507.5	8281.7

Table 3.AB.7 (continued)

5658	4442.3	4004.2	-3972.6	8414.9	8204.7
8343	4441.7	4003.5	-3972.8	8414.5	8204.1
2973	4441.7	4003.5	-3972.8	8414.5	8204.1
10793	612.78	-2734.3	-7774.0	8386.7	7312.3
50	612.78	-2734.3	-7774.0	8386.7	7312.3
5423	566.62	-2727.0	-7735.6	8302.2	7240.9
8108	566.69	-2726.9	-7735.5	8302.2	7240.8
2738	566.69	-2726.9	-7735.5	8302.2	7240.8
49	-2314.3	-5918.1	-10505.	8190.3	7110.0
10792	-2314.3	-5918.1	-10505.	8190.3	7110.0
5422	-2320.0	-5917.4	-10500.	8180.2	7101.4
8107	-2319.9	-5917.3	-10500.	8180.1	7101.3
2737	-2319.9	-5917.3	-10500.	8180.1	7101.3
2882	5289.6	4472.8	-1204.6	6494.2	6126.8
5567	5289.6	4472.8	-1204.6	6494.2	6126.8
8252	5289.6	4472.8	-1204.6	6494.2	6126.8
194	4428.5	4420.1	-1927.6	6356.0	6351.9
10937	4428.5	4420.1	-1927.6	6356.0	6351.9
5539	5031.2	3372.4	-1206.5	6237.6	5595.8
2854	5031.2	3372.6	-1206.5	6237.6	5595.8
8224	5031.2	3372.6	-1206.5	6237.6	5595.8
166	4211.7	3219.3	-1915.5	6127.2	5696.2
10909	4211.7	3219.3	-1915.5	6127.2	5696.2
284	74.333	-1744.2	-5967.0	6041.4	5368.3
11027	74.333	-1744.2	-5967.0	6041.4	5368.3
5657	29.549	-1768.5	-5979.1	6008.6	5341.6
8342	29.319	-1769.5	-5978.8	6008.1	5340.9
2972	29.319	-1769.5	-5978.8	6008.1	5340.9
2826	4779.1	2260.6	-1220.8	5999.9	5218.3
8196	4779.1	2260.6	-1220.8	5999.9	5218.3
5511	4779.1	2260.6	-1220.8	5999.8	5218.3
138	4000.3	2010.6	-1924.6	5924.9	5222.5
10881	4000.3	2010.6	-1924.6	5924.9	5222.5
5656	-1839.6	-6698.9	-7430.0	5590.4	5263.1
8341	-1839.7	-6700.3	-7429.4	5589.7	5263.2
2971	-1839.7	-6700.3	-7429.4	5589.7	5263.2
11026	-1820.4	-6703.0	-7390.9	5570.5	5260.4
283	-1820.4	-6703.0	-7390.9	5570.5	5260.4

Minimum safety factor = 2.4276182.

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
27	5435.0	-26979.	-27261.	32696.	32556.
1	-1532.1	-3709.8	-7902.9	6370.8	5608.5

Minimum safety factor = 2.07366978.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.7 (continued)

5428	16679.	-878.99	-2503.5	19183.	18424.
8113	16679.	-878.99	-2503.5	19183.	18424.
2743	16679.	-878.99	-2503.5	19183.	18424.
55	14674.	-1583.1	-3853.2	18527.	17503.
10798	14674.	-1583.1	-3853.2	18527.	17503.
195	15139.	10087.	-1782.9	16922.	15046.
10938	15139.	10087.	-1782.9	16922.	15046.
5568	14739.	12041.	-992.21	15731.	14571.
2883	14739.	12041.	-992.23	15731.	14571.
8253	14739.	12041.	-992.14	15731.	14571.
167	13800.	9873.1	-1758.8	15559.	14014.
10910	13800.	9873.1	-1758.8	15559.	14014.
2976	12456.	1019.2	-2064.1	14521.	13251.
8346	12456.	1019.2	-2064.1	14521.	13251.
5661	12456.	1019.4	-2064.2	14520.	13250.
288	10970.	1823.5	-3531.2	14501.	12701.
11031	10970.	1823.5	-3531.2	14501.	12701.
2855	13509.	11786.	-979.58	14488.	13708.
8225	13509.	11786.	-979.57	14488.	13708.
5540	13508.	11786.	-979.58	14488.	13708.
139	12585.	9684.9	-1755.5	14340.	13133.
10882	12585.	9684.9	-1755.5	14340.	13133.
2827	12394.	11562.	-979.45	13373.	12977.
8197	12394.	11562.	-979.44	13373.	12977.
5512	12394.	11562.	-979.44	13373.	12977.

Minimum safety factor = 2.03828225.

Table 3.AB.8

LANDS

Total compressive force = 919.903405

Total friction force = 27746.6765

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	CURRENT STOTAL	MIXED LANDSTAT
411	-4773.0	.00000
412	-4782.5	.00000
429	-4767.3	.00000
430	-4787.8	.00000
841	-4762.6	.00000
842	-4775.9	.00000
859	-4760.5	.00000
860	-4771.6	.00000
1271	-4756.0	.00000
1272	-4763.1	.00000
1289	-4758.8	.00000
1290	-4763.6	.00000
1701	-4757.8	.00000
1702	-4761.5	.00000
1719	-4761.1	.00000
1720	-4763.4	.00000
2131	-4762.0	.00000
2132	-4764.0	.00000
2149	-4764.4	.00000
2150	-4765.7	.00000
2561	-4765.7	.00000
2562	-4766.7	.00000
2579	-4767.0	.00000
2580	-4767.7	.00000
2991	-4768.2	.00000
2992	-4768.4	.00000
3009	-4768.6	.00000
3010	-4768.8	.00000
3421	-4769.7	.00000
3422	-4769.4	.00000
3439	-4769.4	.00000
3440	-4769.3	.00000
3851	-4770.4	.00000
3852	-4769.7	.00000
3869	-4769.8	.00000
3870	-4769.5	.00000
4281	-4770.7	.00000

Table 3.AB.8

4282	-4769.9	.00000
4299	-4769.9	.00000
4300	-4769.5	.00000
4711	-4770.8	.00000
4712	-4769.9	.00000
4729	-4769.9	.00000
4730	-4769.5	.00000
5141	-4770.7	.00000
5142	-4769.9	.00000
5159	-4769.8	.00000
5160	-4769.5	.00000
5571	-4770.4	.00000
5572	-4769.7	.00000
5589	-4769.4	.00000
5590	-4769.3	.00000
6001	-4769.7	.00000
6002	-4769.4	.00000
6019	-4768.6	.00000
6020	-4768.8	.00000
6431	-4768.2	.00000
6432	-4768.4	.00000
6449	-4767.0	.00000
6450	-4767.7	.00000
6861	-4765.7	.00000
6862	-4766.7	.00000
6879	-4764.4	.00000
6880	-4765.7	.00000
7291	-4762.0	.00000
7292	-4764.0	.00000
7309	-4761.1	.00000
7310	-4763.4	.00000
7721	-4757.8	.00000
7722	-4761.5	.00000
7739	-4758.8	.00000
7740	-4763.6	.00000
8151	-4756.0	.00000
8152	-4763.1	.00000
8169	-4760.5	.00000
8170	-4771.6	.00000
8581	-4762.6	.00000
8582	-4775.9	.00000
8599	-4767.3	.00000
8600	-4787.8	.00000
8635	-4773.0	.00000
8636	-4782.5	.00000

BOLTS

Components: Maximum Stress

STAT CURRENT

Table 3.AB.8

ELEM	SEXT
394	1220.2
8618	1220.2
824	561.97
8564	561.97
1254	86.118
8134	86.118
1684	46.085
7704	46.085
2114	32.701
7274	32.701
3834	21.635
5554	21.635
3404	21.524
5984	21.524
4264	20.455
5124	20.455
4694	19.891
2974	15.555
6414	15.555
6844	2.7054
2544	2.7054

LID

NODE	S1	S2	S3	SINT	SEQV
501	67.424	-9.2567	-112.32	179.75	156.22
479	9.5216	-55.552	-58.413	67.935	66.551

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
282	875.01	49.212	-133.97	1009.0	931.01
11025	875.01	49.212	-133.97	1009.0	931.01
280	83.633	-.64402	-821.70	905.33	866.27
11023	83.633	-.64402	-821.70	905.33	866.27
47	467.33	-58.182	-113.14	580.47	555.04
10790	467.33	-58.182	-113.14	580.47	555.04
8105	430.95	-52.796	-84.803	515.75	500.52
2735	430.95	-52.796	-84.803	515.75	500.52
5420	393.17	-47.244	-55.013	448.19	444.35
8338	311.96	20.568	-43.186	355.14	327.95
2968	311.96	20.568	-43.186	355.14	327.95
49	64.136	-126.69	-234.01	298.15	261.56
10792	64.136	-126.69	-234.01	298.15	261.56
182	125.21	.60112	-160.23	285.44	247.86
10925	125.21	.60112	-160.23	285.44	247.86
2737	60.042	-110.46	-209.07	269.11	235.81
8107	60.042	-110.46	-209.07	269.11	235.81

Table 3.AB.8 (continued)

5422	56.512	-100.63	-175.94	232.45	205.42
10927	225.97	139.50	-2.3709	228.34	199.68
184	225.97	139.50	-2.3709	228.34	199.68
154	88.054	-.47139	-111.92	199.98	173.57
10897	88.054	-.47139	-111.92	199.98	173.57
8340	170.07	48.435	-12.346	182.42	160.88
2970	170.07	48.435	-12.346	182.42	160.88
156	160.05	99.904	-.81918	160.87	140.78
10899	160.05	99.904	-.81918	160.87	140.78
2872	109.93	.59695	-23.561	133.49	123.20
8242	109.93	.59695	-23.561	133.49	123.20
126	68.811	-.70755	-61.368	130.18	112.83
10869	68.811	-.70755	-61.368	130.18	112.83
5527	116.98	75.594	1.4619	115.52	101.37
2870	109.81	16.419	-1.9855	111.80	103.82
8240	109.81	16.419	-1.9855	111.80	103.82
5555	114.23	45.292	2.7434	111.49	97.449
10871	102.84	56.503	.54901	102.29	88.719
128	102.84	56.503	.54901	102.29	88.719
2842	91.940	1.2299	-9.8000	101.74	96.698
8212	91.940	1.2299	-9.8000	101.74	96.698
5529	-.41943	-1.6361	-99.229	98.810	98.207
5557	-.12909	-49.162	-96.746	96.617	83.676
5653	54.697	13.961	-36.280	90.977	78.931
5501	35.816	1.5190	-55.072	90.887	79.496
2844	87.858	2.2549	-.82315E-01	87.941	86.796
8214	87.858	2.2549	-.82315E-01	87.941	86.796
2814	80.137	.58032E-01	-6.1392	86.276	83.351
8184	80.137	.58032E-01	-6.1392	86.276	83.351
5499	78.685	64.778	-.54510	79.230	73.273
2816	69.787	1.7535	.20901E-01	69.766	68.916
8186	69.787	1.7535	.20901E-01	69.766	68.916
5655	51.207	37.954	9.9549	41.253	36.479

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
281	547.49	30.200	-282.50	829.99	726.04
11024	547.49	30.200	-282.50	829.99	726.04
48	147.77	-73.973	-212.08	359.85	314.43
10791	147.77	-73.973	-212.08	359.85	314.43
8106	137.46	-66.538	-181.94	319.40	280.13
2736	137.46	-66.538	-181.94	319.40	280.13
5421	128.34	-59.929	-150.32	278.66	246.24
2969	221.31	33.330	-5.3665	226.68	210.02
8339	221.31	33.330	-5.3665	226.68	210.02
183	177.41	-.74145	-4.3155	181.73	179.97
10926	177.41	-.74145	-4.3155	181.73	179.97
155	125.37	.76939E-01	-2.2706	127.64	126.48
10898	125.37	.76938E-01	-2.2706	127.64	126.48
8241	109.29	1.0791	-5.7864	115.08	111.81

Table 3.AB.8 (continued)

2871	109.29	1.0791	-5.7864	115.08	111.81
8213	88.768	1.6730	-3.6318	92.400	89.865
2843	88.768	1.6730	-3.6318	92.400	89.865
10870	86.355	.56349	-.76988	87.125	86.466
127	86.355	.56349	-.76988	87.125	86.466
8185	72.040	1.7039	-1.2552	73.295	71.861
2815	72.040	1.7039	-1.2552	73.295	71.861
5500	56.344	2.2524	.47799	55.866	55.001
5654	57.125	19.535	1.9009	55.224	48.855
5528	36.228	4.3343	-.16394	36.392	34.364
5556	4.2478	1.2605	-3.3269	7.5748	6.6085

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
285	1176.8	254.68	-316.90	1493.7	1305.4
11028	1176.8	254.68	-316.90	1493.7	1305.4
11027	1168.4	194.23	-257.45	1425.8	1262.1
284	1168.4	194.23	-257.45	1425.8	1262.1
11029	1010.0	375.78	-262.41	1272.4	1101.9
286	1010.0	375.78	-262.41	1272.4	1101.9
283	1029.2	120.66	-170.91	1200.1	1084.1
11026	1029.2	120.66	-170.91	1200.1	1084.1
287	1071.3	464.06	-95.091	1166.4	1010.4
11030	1071.3	464.06	-95.091	1166.4	1010.4
282	875.01	49.212	-133.97	1009.0	931.01
11025	875.01	49.212	-133.97	1009.0	931.01
49	64.136	-126.69	-234.01	298.15	261.56
10792	64.136	-126.69	-234.01	298.15	261.56
8107	60.042	-110.46	-209.07	269.11	235.81
2737	60.042	-110.46	-209.07	269.11	235.81
10793	46.291	-136.75	-219.35	265.64	235.47
50	46.291	-136.75	-219.35	265.64	235.47
8108	51.888	-108.38	-194.82	246.70	216.82
2738	51.888	-108.38	-194.82	246.70	216.82
5422	56.512	-100.63	-175.94	232.45	205.42
51	35.098	-115.60	-189.31	224.41	198.12
10794	35.098	-115.60	-189.31	224.41	198.12
5423	56.692	-89.360	-157.64	214.34	189.65
8109	42.743	-82.874	-164.20	206.95	180.58
2739	42.743	-82.874	-164.20	206.95	180.58
10795	46.517	-52.192	-138.96	185.47	160.74
52	46.517	-52.192	-138.96	185.47	160.74
5426	23.904	-154.19	-160.18	184.09	181.17
2970	170.07	48.435	-12.346	182.42	160.88
8340	170.07	48.435	-12.346	182.42	160.88
5424	48.232	-54.276	-132.13	180.36	156.68
10796	47.687	-52.291	-129.61	177.30	153.96
53	47.687	-52.291	-129.61	177.30	153.96
2741	30.064	-99.719	-142.21	172.28	155.45
8111	30.064	-99.719	-142.21	172.28	155.45

Table 3.AB.8 (continued)

2740	44.914	-23.563	-119.91	164.83	143.42
8110	44.914	-23.563	-119.91	164.83	143.42
194	143.37	-3.2391	-14.588	157.96	152.60
10937	143.37	-3.2391	-14.588	157.96	152.60
8341	144.19	57.560	-5.3934	149.58	130.08
2971	144.19	57.560	-5.3934	149.58	130.08
5425	42.802	2.2635	-100.38	143.18	127.82
5660	-10.844	-57.816	-146.67	135.83	119.48
2972	106.87	46.383	-11.382	118.25	102.42
8342	106.87	46.383	-11.382	118.25	102.42
5659	13.508	-37.227	-85.618	99.126	85.853
10797	37.578	-2.5253	-57.795	95.373	82.943
54	37.578	-2.5253	-57.795	95.373	82.943
166	84.151	-3.6069	-8.8585	93.010	90.498
10909	84.151	-3.6069	-8.8585	93.010	90.498
2742	26.474	.24579	-65.824	92.298	82.377
8112	25.929	.28499	-65.828	91.758	82.000
5427	22.769	2.2936	-63.720	86.489	78.286
5658	33.809	-8.3268	-48.001	81.810	70.860
8343	59.254	26.506	-22.345	81.599	71.124
2973	59.254	26.506	-22.345	81.599	71.124
8345	13.685	-12.212	-66.112	79.797	70.510
2975	15.291	-9.2788	-62.671	77.962	69.038
2974	49.163	32.682	-22.115	71.277	64.632
8344	49.163	32.682	-22.115	71.277	64.632
5657	37.942	10.799	-32.080	70.022	61.149
2882	45.555	-.65882E-01	-10.617	56.173	51.711
5656	42.635	31.483	-13.243	55.878	51.220
8252	44.944	.25061	-10.787	55.730	51.113
138	50.616	-2.1014	-4.8612	55.477	54.150
10881	50.616	-2.1014	-4.8612	55.477	54.150
5655	51.207	37.954	9.9549	41.253	36.479
2854	36.457	.28892	-4.3694	40.826	38.708
8224	36.243	.56090	-4.3791	40.622	38.391
5567	12.126	2.1969	-24.172	36.298	32.492
2826	21.190	.99193	-1.3577	22.548	21.470
8196	20.955	.94120	-1.4630	22.418	21.318
5539	10.511	1.9017	-9.8983	20.410	17.747
5511	9.0030	2.2936	-9.6162	18.619	16.333

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	562.56	548.41	-262.86	825.42	818.44
27	241.48	-401.91	-467.79	709.28	678.74

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.8 (continued)

288	362.16	-17.662	-130.83	492.99	447.27
11031	362.16	-17.662	-130.83	492.99	447.27
10938	181.15	23.938	-4.4089	185.55	173.13
195	181.15	23.938	-4.4089	185.55	173.13
10910	110.43	25.908	-3.8051	114.24	102.66
167	110.43	25.908	-3.8051	114.24	102.66
5428	16.194	1.2217	-70.948	87.142	80.704
8346	10.396	2.2812	-75.360	85.756	82.000
2976	9.9548	4.9194	-75.351	85.306	82.903
139	73.802	16.675	-2.2343	76.036	68.566
10882	73.802	16.675	-2.2343	76.036	68.566
8113	15.258	-.68801	-59.769	75.027	68.461
2743	15.064	.46396	-59.760	74.823	68.697
5661	12.631	-10.879	-57.330	69.962	61.665
55	21.889	-.54469	-40.487	62.376	54.724
10798	21.889	-.54469	-40.487	62.376	54.724
5568	2.0505	-25.836	-58.787	60.838	52.748
2883	45.338	9.6908	-15.322	60.660	52.801
8253	40.746	-8.8538	-16.647	57.392	53.920
8225	31.873	-2.5673	-9.1592	41.032	38.166
5540	2.0288	-28.223	-38.524	40.552	36.509
2855	37.057	9.1991	-2.7130	39.770	35.352
8197	26.179	1.9053	-5.4812	31.660	28.689
2827	29.255	5.4563	1.9343	27.321	25.741
5512	1.7929	-13.642	-18.001	19.794	18.015

Table 3.AB.9

LANDS

Total compressive force = -3334277.14

Total friction force = 212014.337

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5143.2	.00000
412	-5308.1	.00000
429	-5528.5	.00000
430	-5887.7	.00000
841	-5518.8	.00000
842	-5848.9	.00000
859	-5528.6	.00000
860	-5888.1	.00000
1271	-5518.9	.00000
1272	-5849.1	.00000
1289	-5528.6	.00000
1290	-5888.2	.00000
1701	-5518.8	.00000
1702	-5849.0	.00000
1719	-5528.5	.00000
1720	-5888.1	.00000
2131	-5518.7	.00000
2132	-5848.9	.00000
2149	-5528.4	.00000
2150	-5888.0	.00000
2561	-5518.6	.00000
2562	-5848.9	.00000
2579	-5528.4	.00000
2580	-5888.0	.00000
2991	-5518.6	.00000
2992	-5848.8	.00000
3009	-5528.4	.00000
3010	-5888.0	.00000
3421	-5518.6	.00000
3422	-5848.8	.00000
3439	-5528.4	.00000
3440	-5888.0	.00000
3851	-5518.6	.00000
3852	-5848.9	.00000
3869	-5528.4	.00000
3870	-5888.0	.00000
4281	-5518.6	.00000

Table 3.AB.9

4282	-5848.9	.00000
4299	-5528.4	.00000
4300	-5888.0	.00000
4711	-5518.6	.00000
4712	-5848.9	.00000
4729	-5528.4	.00000
4730	-5888.0	.00000
5141	-5518.6	.00000
5142	-5848.9	.00000
5159	-5528.4	.00000
5160	-5888.0	.00000
5571	-5518.6	.00000
5572	-5848.9	.00000
5589	-5528.4	.00000
5590	-5888.0	.00000
6001	-5518.6	.00000
6002	-5848.8	.00000
6019	-5528.4	.00000
6020	-5888.0	.00000
6431	-5518.6	.00000
6432	-5848.8	.00000
6449	-5528.4	.00000
6450	-5888.0	.00000
6861	-5518.6	.00000
6862	-5848.9	.00000
6879	-5528.4	.00000
6880	-5888.0	.00000
7291	-5518.7	.00000
7292	-5848.9	.00000
7309	-5528.5	.00000
7310	-5888.1	.00000
7721	-5518.8	.00000
7722	-5849.0	.00000
7739	-5528.6	.00000
7740	-5888.2	.00000
8151	-5518.9	.00000
8152	-5849.1	.00000
8169	-5528.6	.00000
8170	-5888.1	.00000
8581	-5518.8	.00000
8582	-5848.9	.00000
8599	-5528.5	.00000
8600	-5887.7	.00000
8635	-5143.2	.00000
8636	-5308.1	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.9 (continued)

ELEM	SEXT
394	89873.
8618	89873.
824	89855.
8564	89855.
6414	89851.
2974	89851.
6844	89851.
2544	89851.
3404	89851.
5984	89851.
3834	89851.
5554	89851.
4264	89850.
5124	89850.
4694	89850.
7274	89850.
2114	89850.
1684	89849.
7704	89849.
1254	89846.
8134	89846.

LID

NODE	S1	S2	S3	SINT	SEQV
501	4944.6	4905.7	-2159.0	7103.5	7084.2
479	2165.6	-3889.2	-3936.3	6102.0	6078.5

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
11023	467.04	204.21	-1925.9	2392.9	2272.9
280	467.04	204.21	-1925.9	2392.9	2272.9
5653	470.18	204.84	-1916.4	2386.5	2265.6
8338	468.91	204.88	-1916.6	2385.6	2265.1
2968	468.91	204.88	-1916.6	2385.6	2265.1
11025	1073.9	608.37	-141.19	1215.1	1061.9
282	1073.9	608.37	-141.19	1215.1	1061.9
5655	1068.3	601.07	-139.77	1208.0	1055.1
8340	1067.8	601.35	-139.59	1207.4	1054.6
2970	1067.8	601.35	-139.59	1207.4	1054.6
10925	5.1099	.80970	-109.05	114.16	112.07
182	5.1099	.80970	-109.05	114.16	112.07
8240	4.8826	.81170	-109.00	113.89	111.91
2870	4.8826	.81170	-109.00	113.89	111.91
5555	4.5213	.80736	-108.94	113.47	111.65
5501	.67366	-.27627	-94.850	95.523	95.052
8186	.67467	-.33973	-94.813	95.488	94.984

Table 3.AB.9 (continued)

2816	.67467	-.33973	-94.813	95.488	94.984
128	.67542	-.40216	-94.777	95.453	94.918
10871	.67542	-.40216	-94.777	95.453	94.918
156	-.20148	-1.5569	-94.036	93.835	93.164
10899	-.20148	-1.5569	-94.036	93.835	93.164
8214	-.20437	-1.3925	-93.945	93.741	93.153
2844	-.20437	-1.3925	-93.945	93.741	93.153
5529	-.20430	-1.2177	-93.861	93.657	93.154
5527	.25672	-1.2840	-93.047	93.304	92.543
8212	.25743	-1.0884	-93.019	93.276	92.610
2842	.25743	-1.0884	-93.019	93.276	92.610
154	.26199	-.90838	-92.996	93.258	92.678
10897	.26199	-.90838	-92.996	93.258	92.678
10869	.13625	-.54365	-92.159	92.296	91.958
126	.13625	-.54365	-92.159	92.296	91.958
8184	.55484E-01	-.52887	-92.221	92.276	91.986
2814	.55484E-01	-.52887	-92.221	92.276	91.986
5499	-.12274E-01	-.52870	-92.283	92.271	92.014
10927	12.551	-.79889	-78.410	90.961	85.075
184	12.551	-.79889	-78.410	90.961	85.075
8242	12.719	-.78278	-78.223	90.942	84.999
2872	12.719	-.78278	-78.223	90.942	84.999
5557	13.008	-.77515	-77.930	90.938	84.890
10790	24.662	-23.167	-46.374	71.035	62.738
47	24.662	-23.167	-46.374	71.035	62.738
5420	24.704	-23.318	-46.277	70.981	62.736
8105	24.682	-23.298	-46.270	70.952	62.706
2735	24.682	-23.298	-46.270	70.952	62.706
10792	-28.695	-80.616	-96.996	68.301	61.762
49	-28.695	-80.616	-96.996	68.301	61.762
5422	-28.999	-80.483	-97.201	68.202	61.570
8107	-28.972	-80.440	-97.093	68.121	61.510
2737	-28.972	-80.440	-97.093	68.121	61.510

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
281	975.84	280.94	-408.74	1384.6	1199.1
11024	975.84	280.94	-408.74	1384.6	1199.1
5654	970.78	283.75	-408.55	1379.3	1194.5
8339	970.19	283.87	-408.32	1378.5	1193.8
2969	970.19	283.87	-408.32	1378.5	1193.8
183	8.8619	.46212E-01	-93.969	102.83	98.719
10926	8.8619	.46212E-01	-93.969	102.83	98.719
8241	8.8521	.44215E-01	-93.848	102.70	98.591
2871	8.8521	.44215E-01	-93.848	102.70	98.591
5556	8.8296	.46047E-01	-93.668	102.50	98.400
10898	.39064E-01	-1.2519	-93.591	93.630	92.991
155	.39064E-01	-1.2519	-93.591	93.630	92.991
5500	.50956E-01	-.17131	-93.549	93.600	93.489
8213	.35424E-01	-1.2524	-93.555	93.590	92.953

Table 3.AB.9 (continued)

2843	.35424E-01	-1.2524	-93.555	93.590	92.953
5528	.35093E-01	-1.2550	-93.524	93.560	92.921
8185	.51490E-01	-.17189	-93.501	93.552	93.441
2815	.51490E-01	-.17189	-93.501	93.552	93.441
10870	.62997E-01	-.18379	-93.453	93.516	93.392
127	.62997E-01	-.18379	-93.453	93.516	93.392
48	-27.138	-72.702	-78.878	51.740	48.945
10791	-27.138	-72.702	-78.878	51.740	48.945
5421	-27.551	-72.924	-78.539	50.988	48.425
2736	-27.530	-72.844	-78.498	50.968	48.390
8106	-27.530	-72.844	-78.498	50.968	48.390

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
11025	1073.9	608.37	-141.19	1215.1	1061.9
282	1073.9	608.37	-141.19	1215.1	1061.9
5655	1068.3	601.07	-139.77	1208.0	1055.1
8340	1067.8	601.35	-139.59	1207.4	1054.6
2970	1067.8	601.35	-139.59	1207.4	1054.6
11026	1024.9	766.66	-158.27	1183.2	1077.5
283	1024.9	766.66	-158.27	1183.2	1077.5
5656	1019.9	752.95	-159.26	1179.2	1070.9
8341	1019.5	753.15	-159.27	1178.8	1070.7
2971	1019.5	753.15	-159.27	1178.8	1070.7
284	930.36	760.13	-108.69	1039.1	965.26
11027	930.36	760.13	-108.69	1039.1	965.26
5657	926.11	741.04	-112.54	1038.7	959.60
8342	925.82	741.16	-112.61	1038.4	959.52
2972	925.82	741.16	-112.61	1038.4	959.52
5658	701.88	455.21	-209.83	911.71	816.80
8343	701.67	455.18	-210.00	911.67	816.82
2973	701.67	455.18	-210.00	911.67	816.82
11028	707.79	480.02	-202.90	910.69	820.85
285	707.79	480.02	-202.90	910.69	820.85
11029	605.58	207.09	-158.82	764.40	662.19
286	605.58	207.09	-158.82	764.40	662.19
287	764.73	535.95	3.3378	761.40	676.66
11030	764.73	535.95	3.3378	761.40	676.66
8344	601.10	177.57	-159.83	760.93	660.39
2974	601.10	177.57	-159.83	760.93	660.39
5659	601.23	177.77	-159.54	760.77	660.25
5660	735.52	587.80	6.8096	728.71	667.23
8345	734.80	587.62	6.6071	728.20	666.90
2975	734.78	587.62	6.6043	728.17	666.88
53	191.34	29.564	-5.9868	197.33	182.17
10796	191.34	29.564	-5.9868	197.33	182.17
5426	191.42	29.562	-5.8681	197.28	182.17
2741	191.36	29.518	-5.8516	197.21	182.12
8111	191.36	29.518	-5.8516	197.21	182.12
10795	55.395	-21.382	-42.230	97.625	89.051

Table 3.AB.9 (continued)

52	55.395	-21.382	-42.230	97.625	89.051
5425	55.306	-21.305	-42.253	97.559	88.954
8110	55.316	-21.319	-42.215	97.531	88.943
2740	55.316	-21.319	-42.215	97.531	88.943
10794	5.4143	-51.295	-72.990	78.404	70.121
51	5.4143	-51.295	-72.990	78.404	70.121
5424	5.2701	-51.328	-73.030	78.300	70.019
8109	5.3025	-51.316	-72.963	78.266	69.999
2739	5.3025	-51.316	-72.963	78.266	69.999
10937	65.402	.12073	-7.6984	73.100	69.521
194	65.402	.12073	-7.6984	73.100	69.521
10792	-28.695	-80.616	-96.996	68.301	61.762
49	-28.695	-80.616	-96.996	68.301	61.762
5422	-28.999	-80.483	-97.201	68.202	61.570
8107	-28.972	-80.440	-97.093	68.121	61.510
2737	-28.972	-80.440	-97.093	68.121	61.510
5567	57.477	.56621	-9.2000	66.677	62.370
2882	57.464	.56130	-9.1850	66.649	62.350
8252	57.463	.56065	-9.1850	66.648	62.349
50	-20.842	-69.383	-87.034	66.192	59.368
10793	-20.842	-69.383	-87.034	66.192	59.368
5423	-21.079	-69.367	-87.163	66.084	59.227
8108	-21.039	-69.334	-87.067	66.028	59.189
2738	-21.039	-69.334	-87.067	66.028	59.189
138	53.220	.23237	-1.3326	54.553	53.788
10881	53.220	.23237	-1.3326	54.553	53.788
166	52.200	.63239	.12566	52.074	51.822
10909	52.200	.63239	.12566	52.074	51.822
2826	47.778	.19583	-1.5841	49.362	48.496
8196	47.778	.19583	-1.5841	49.362	48.496
5511	47.740	.19571	-1.5805	49.321	48.457
2854	46.942	.76250	.69909E-01	46.872	46.530
8224	46.941	.76250	.70932E-01	46.870	46.528
5539	46.881	.76470	.71177E-01	46.810	46.467
8112	8.4664	-7.2699	-15.537	24.003	21.120
2742	8.4629	-7.2728	-15.537	24.000	21.117
5427	8.4577	-7.2750	-15.517	23.975	21.098
10797	8.4531	-4.3340	-13.711	22.164	19.271
54	8.4531	-4.3340	-13.711	22.164	19.271

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	50.535	49.790	-13.234	63.769	63.400
27	15.115	-3.8587	-6.3601	21.475	20.340

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.9 (continued)

5661	299.37	8.3571	-48.651	348.03	323.31
2976	299.40	8.2210	-48.599	348.00	323.35
8346	299.40	8.2336	-48.594	347.99	323.35
11031	263.83	10.029	-80.475	344.31	309.16
288	263.83	10.029	-80.475	344.31	309.16
139	55.069	.11688	-.91596	55.985	55.476
10882	55.069	.11688	-.91596	55.985	55.476
10910	55.530	1.1031	.13997	55.390	54.915
167	55.530	1.1031	.13997	55.390	54.915
195	40.720	-1.0741	-10.914	51.634	47.485
10938	40.720	-1.0741	-10.914	51.634	47.485
2827	49.511	.66182E-01	-1.1081	50.619	50.042
8197	49.508	.58273E-01	-1.1081	50.616	50.043
5512	49.447	.62640E-01	-1.1141	50.561	49.983
8225	49.955	1.2824	.92669E-01	49.863	49.279
2855	49.958	1.2824	.10147	49.857	49.277
5540	49.862	1.2969	.96854E-01	49.765	49.176
5568	34.527	-.48975	-12.975	47.502	42.652
8253	34.448	-.48381	-13.002	47.450	42.593
2883	34.444	-.49991	-13.002	47.446	42.594
55	2.3152	-1.2137	-13.086	15.401	13.975
10798	2.3152	-1.2137	-13.086	15.401	13.975
8113	.71830E-01	-1.9364	-14.868	14.940	14.044
2743	.70852E-01	-1.9356	-14.868	14.939	14.044
5428	.71058E-01	-1.9436	-14.846	14.917	14.018

Table 3.AB.10

LANDS

Total compressive force = -749511.315

Total friction force = 723347.802

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-4918.0	.00000
412	-4842.8	.00000
429	-5013.5	.00000
430	-4886.4	.00000
841	-5067.8	.00000
842	-4917.3	.00000
859	-5013.4	.00000
860	-4886.2	.00000
1271	-5067.8	.00000
1272	-4917.2	.00000
1289	-5013.5	.00000
1290	-4886.1	.00000
1701	-5067.9	.00000
1702	-4917.3	.00000
1719	-5013.5	.00000
1720	-4886.2	.00000
2131	-5067.9	.00000
2132	-4917.3	.00000
2149	-5013.5	.00000
2150	-4886.2	.00000
2561	-5067.9	.00000
2562	-4917.3	.00000
2579	-5013.5	.00000
2580	-4886.2	.00000
2991	-5067.9	.00000
2992	-4917.3	.00000
3009	-5013.5	.00000
3010	-4886.2	.00000
3421	-5067.9	.00000
3422	-4917.3	.00000
3439	-5013.5	.00000
3440	-4886.2	.00000
3851	-5067.9	.00000
3852	-4917.3	.00000
3869	-5013.5	.00000
3870	-4886.2	.00000
4281	-5067.9	.00000

4282	-4917.3	.00000
4299	-5013.5	.00000
4300	-4886.2	.00000
4711	-5067.9	.00000
4712	-4917.3	.00000
4729	-5013.5	.00000
4730	-4886.2	.00000
5141	-5067.9	.00000
5142	-4917.3	.00000
5159	-5013.5	.00000
5160	-4886.2	.00000
5571	-5067.9	.00000
5572	-4917.3	.00000
5589	-5013.5	.00000
5590	-4886.2	.00000
6001	-5067.9	.00000
6002	-4917.3	.00000
6019	-5013.5	.00000
6020	-4886.2	.00000
6431	-5067.9	.00000
6432	-4917.3	.00000
6449	-5013.5	.00000
6450	-4886.2	.00000
6861	-5067.9	.00000
6862	-4917.3	.00000
6879	-5013.5	.00000
6880	-4886.2	.00000
7291	-5067.9	.00000
7292	-4917.3	.00000
7309	-5013.5	.00000
7310	-4886.2	.00000
7721	-5067.9	.00000
7722	-4917.3	.00000
7739	-5013.5	.00000
7740	-4886.1	.00000
8151	-5067.8	.00000
8152	-4917.2	.00000
8169	-5013.4	.00000
8170	-4886.2	.00000
8581	-5067.8	.00000
8582	-4917.3	.00000
8599	-5013.5	.00000
8600	-4886.4	.00000
8635	-4918.0	.00000
8636	-4842.8	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.10 (continued)

ELEM	SEXT
1254	1910.7
8134	1910.7
7704	1909.6
1684	1909.6
2114	1909.0
7274	1909.0
4694	1909.0
4264	1909.0
5124	1909.0
3834	1908.9
5554	1908.9
3404	1908.9
5984	1908.9
2544	1908.8
6844	1908.8
2974	1908.8
6414	1908.8
8564	1907.4
824	1907.4
394	1900.2
8618	1900.2

LID

NODE	S1	S2	S3	SINT	SEQV
501	3381.4	-8366.0	-8436.9	11818.	11783.
479	6376.7	6292.6	-3694.0	10071.	10029.

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
47	486.73	-470.32	-4840.4	5327.1	4918.9
10790	486.73	-470.32	-4840.4	5327.1	4918.9
5420	478.63	-462.26	-4840.4	5319.0	4916.5
2735	478.63	-462.27	-4840.3	5319.0	4916.5
8105	478.63	-462.27	-4840.3	5319.0	4916.5
49	1038.0	747.61	-1395.0	2433.0	2301.6
10792	1038.0	747.61	-1395.0	2433.0	2301.6
5422	1037.4	744.85	-1391.6	2428.9	2296.7
2737	1037.4	744.84	-1391.6	2428.9	2296.7
8107	1037.4	744.84	-1391.6	2428.9	2296.7
126	-33.975	-1155.8	-1648.3	1614.4	1433.1
10869	-33.975	-1155.8	-1648.3	1614.4	1433.1
8184	-44.008	-1155.8	-1638.3	1594.3	1416.1
2814	-44.008	-1155.8	-1638.3	1594.3	1416.1
5499	-44.010	-1155.8	-1638.3	1594.3	1416.1
154	-22.932	-930.23	-1556.7	1533.8	1335.7
10897	-22.932	-930.23	-1556.7	1533.8	1335.7

Table 3.AB.10 (continued)

8212	-32.353	-930.23	-1547.3	1514.9	1319.5
2842	-32.353	-930.23	-1547.3	1514.9	1319.5
5527	-32.355	-930.20	-1547.2	1514.9	1319.4
10925	-18.096	-717.74	-1496.0	1477.9	1280.5
182	-18.096	-717.74	-1496.0	1477.9	1280.5
8240	-27.141	-717.76	-1487.1	1460.0	1265.0
2870	-27.141	-717.76	-1487.1	1460.0	1265.0
5555	-27.137	-717.72	-1486.9	1459.8	1264.8
10871	-92.813	-1111.4	-1514.3	1421.5	1268.9
128	-92.813	-1111.4	-1514.3	1421.5	1268.9
5501	-101.69	-1111.4	-1505.4	1403.8	1254.1
2816	-101.69	-1111.4	-1505.4	1403.7	1254.0
8186	-101.69	-1111.4	-1505.4	1403.7	1254.0
156	-73.062	-908.95	-1433.4	1360.4	1188.4
10899	-73.062	-908.95	-1433.4	1360.4	1188.4
5529	-81.418	-908.93	-1425.1	1343.7	1174.0
2844	-81.420	-908.93	-1425.1	1343.6	1174.0
8214	-81.420	-908.93	-1425.1	1343.6	1174.0
10927	-65.445	-694.50	-1376.3	1310.8	1135.5
184	-65.445	-694.50	-1376.3	1310.8	1135.5
5557	-73.462	-694.49	-1368.2	1294.8	1121.6
2872	-73.459	-694.39	-1368.1	1294.6	1121.5
8242	-73.459	-694.39	-1368.1	1294.6	1121.5
11023	25.350	-90.752	-1081.6	1107.0	1053.7
280	25.350	-90.752	-1081.6	1107.0	1053.7
11025	-204.94	-916.50	-1308.4	1103.5	968.91
282	-204.94	-916.50	-1308.4	1103.5	968.91
5653	21.986	-96.262	-1077.5	1099.5	1045.4
8338	22.052	-96.260	-1077.0	1099.0	1044.9
2968	22.052	-96.260	-1077.0	1099.0	1044.9
5655	-211.58	-913.30	-1301.7	1090.2	957.01
8340	-211.58	-913.41	-1301.5	1089.9	956.84
2970	-211.58	-913.41	-1301.5	1089.9	956.84

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
10791	565.97	376.90	-2155.4	2721.4	2632.0
48	565.97	376.90	-2155.4	2721.4	2632.0
5421	565.89	376.61	-2155.0	2720.9	2631.4
8106	565.88	376.60	-2155.0	2720.9	2631.4
2736	565.88	376.60	-2155.0	2720.9	2631.4
127	-63.301	-1131.5	-1576.9	1513.6	1347.3
10870	-63.301	-1131.5	-1576.9	1513.6	1347.3
2815	-72.729	-1131.5	-1567.4	1494.7	1331.4
8185	-72.729	-1131.5	-1567.4	1494.7	1331.4
5500	-72.731	-1131.5	-1567.4	1494.7	1331.4
155	-47.999	-918.42	-1491.3	1443.3	1258.7
10898	-47.999	-918.42	-1491.3	1443.3	1258.7
2843	-56.866	-918.41	-1482.4	1425.5	1243.5
8213	-56.866	-918.41	-1482.4	1425.5	1243.5

Table 3.AB.10 (continued)

5528	-56.865	-918.39	-1482.4	1425.5	1243.5
183	-41.777	-705.10	-1432.5	1390.7	1204.8
10926	-41.777	-705.10	-1432.5	1390.7	1204.8
2871	-50.285	-705.06	-1424.0	1373.7	1190.1
8241	-50.285	-705.06	-1424.0	1373.7	1190.1
5556	-50.285	-705.09	-1424.0	1373.7	1190.1
281	-141.23	-644.54	-1312.6	1171.4	1017.8
11024	-141.23	-644.54	-1312.6	1171.4	1017.8
5654	-148.42	-644.40	-1305.4	1157.0	1005.4
2969	-148.44	-644.49	-1305.1	1156.7	1005.1
8339	-148.44	-644.49	-1305.1	1156.7	1005.1

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
50	1350.8	881.57	-1089.1	2439.9	2242.4
10793	1350.8	881.57	-1089.1	2439.9	2242.4
5423	1348.4	879.56	-1084.7	2433.1	2235.9
2738	1348.4	879.55	-1084.7	2433.1	2235.9
8108	1348.4	879.55	-1084.7	2433.1	2235.9
49	1038.0	747.61	-1395.0	2433.0	2301.6
10792	1038.0	747.61	-1395.0	2433.0	2301.6
5422	1037.4	744.85	-1391.6	2428.9	2296.7
2737	1037.4	744.84	-1391.6	2428.9	2296.7
8107	1037.4	744.84	-1391.6	2428.9	2296.7
10794	1315.2	912.60	-677.41	1992.6	1824.9
51	1315.2	912.60	-677.41	1992.6	1824.9
5424	1313.0	911.62	-674.26	1987.3	1820.1
2739	1313.0	911.62	-674.26	1987.3	1820.1
8109	1313.0	911.62	-674.26	1987.3	1820.1
11025	-204.94	-916.50	-1308.4	1103.5	968.91
282	-204.94	-916.50	-1308.4	1103.5	968.91
52	926.04	860.69	-168.86	1094.9	1063.7
10795	926.04	860.69	-168.86	1094.9	1063.7
5425	925.68	859.47	-167.28	1093.0	1061.4
8110	925.67	859.47	-167.27	1092.9	1061.4
2740	925.67	859.47	-167.27	1092.9	1061.4
5655	-211.58	-913.30	-1301.7	1090.2	957.01
8340	-211.58	-913.41	-1301.5	1089.9	956.84
2970	-211.58	-913.41	-1301.5	1089.9	956.84
54	505.99	394.78	-453.34	959.33	908.84
10797	505.99	394.78	-453.34	959.33	908.84
11026	-340.76	-978.95	-1267.9	927.13	821.69
283	-340.76	-978.95	-1267.9	927.13	821.69
5656	-346.44	-972.55	-1261.8	915.38	810.44
8341	-346.44	-972.61	-1261.6	915.18	810.30
2971	-346.44	-972.61	-1261.6	915.18	810.30
5427	452.16	445.75	-327.42	779.57	776.39
2742	452.16	445.75	-327.42	779.57	776.39
8112	452.16	445.75	-327.42	779.57	776.39
284	-469.74	-1034.7	-1216.7	746.93	674.61

Table 3.AB.10 (continued)

11027	-469.74	-1034.7	-1216.7	746.93	674.61
5657	-474.24	-1025.0	-1211.3	737.11	663.84
2972	-474.22	-1025.0	-1211.2	736.97	663.75
8342	-474.22	-1025.0	-1211.2	736.97	663.75
286	-365.25	-889.08	-1014.3	649.00	596.35
11029	-365.25	-889.08	-1014.3	649.00	596.35
8344	-367.89	-875.43	-1008.8	640.93	585.74
2974	-367.89	-875.43	-1008.8	640.93	585.74
5659	-367.97	-875.59	-1008.9	640.91	585.75
11028	-471.47	-987.88	-1103.2	631.69	582.67
285	-471.47	-987.88	-1103.2	631.69	582.67
5658	-474.26	-976.11	-1096.7	622.41	571.74
8343	-474.21	-976.06	-1096.6	622.35	571.70
2973	-474.21	-976.06	-1096.6	622.35	571.70
10937	-19.642	-473.36	-600.04	580.39	528.57
194	-19.642	-473.36	-600.04	580.39	528.57
53	998.93	780.17	432.67	566.26	494.60
10796	998.93	780.17	432.67	566.26	494.60
5426	991.92	784.79	435.04	556.88	487.51
8111	991.92	784.80	435.04	556.88	487.51
2741	991.92	784.80	435.04	556.88	487.51
5567	-71.049	-565.69	-598.11	527.06	511.62
2882	-71.051	-565.69	-598.11	527.06	511.62
8252	-71.052	-565.69	-598.11	527.06	511.62
5539	-72.082	-486.56	-539.98	467.90	443.61
2854	-72.084	-486.58	-539.99	467.90	443.62
8224	-72.084	-486.58	-539.99	467.90	443.62
166	-22.467	-451.83	-478.51	456.05	443.31
10909	-22.467	-451.83	-478.51	456.05	443.31
2826	-68.156	-337.97	-512.41	444.25	387.68
8196	-68.156	-337.97	-512.41	444.25	387.68
5511	-68.156	-337.98	-512.41	444.25	387.68
138	-22.109	-318.35	-428.84	406.73	364.28
10881	-22.109	-318.35	-428.84	406.73	364.28
287	-198.36	-525.08	-590.63	392.27	363.95
11030	-198.36	-525.08	-590.63	392.27	363.95
2975	-208.48	-529.48	-579.19	370.71	348.52
8345	-208.48	-529.48	-579.19	370.71	348.52
5660	-208.54	-529.63	-579.21	370.66	348.53

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	2481.8	-6077.6	-6304.4	8786.2	8675.0
27	4387.1	4106.8	-2818.3	7205.4	7069.4

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.10 (continued)

55	270.77	227.30	-687.81	958.58	937.60
10798	270.77	227.30	-687.81	958.58	937.60
8113	305.71	166.30	-548.87	854.58	794.11
2743	305.71	166.30	-548.87	854.58	794.11
5428	305.71	166.30	-548.87	854.58	794.11
10938	73.822	-381.40	-543.20	617.02	554.13
195	73.822	-381.40	-543.20	617.02	554.13
5568	41.110	-455.38	-530.72	571.83	538.13
2883	41.113	-455.34	-530.67	571.78	538.09
8253	41.099	-455.34	-530.67	571.77	538.07
288	-36.032	-375.68	-604.92	568.89	495.75
11031	-36.032	-375.68	-604.92	568.89	495.75
8346	-36.038	-426.54	-551.41	515.37	465.67
2976	-36.036	-426.54	-551.40	515.37	465.66
5661	-36.065	-426.47	-551.40	515.34	465.62
167	70.181	-362.63	-422.95	493.13	465.91
10910	70.181	-362.63	-422.95	493.13	465.91
5540	39.077	-420.30	-432.95	472.03	465.83
2855	39.077	-420.33	-432.93	472.01	465.83
8225	39.073	-420.33	-432.93	472.00	465.83
5512	33.067	-362.90	-429.51	462.58	433.13
2827	33.069	-362.89	-429.50	462.57	433.13
8197	33.066	-362.89	-429.50	462.57	433.12
139	61.374	-358.43	-363.90	425.27	422.56
10882	61.374	-358.43	-363.90	425.27	422.56

Table 3.AB.11

LANDS

Total compressive force = 227411.421

Total friction force = 200972.636

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-4719.1	.00000
412	-4748.0	.00000
429	-4688.6	.00000
430	-4739.2	.00000
841	-4670.2	.00000
842	-4728.0	.00000
859	-4688.7	.00000
860	-4739.3	.00000
1271	-4670.2	.00000
1272	-4728.1	.00000
1289	-4688.6	.00000
1290	-4739.3	.00000
1701	-4670.2	.00000
1702	-4728.1	.00000
1719	-4688.6	.00000
1720	-4739.3	.00000
2131	-4670.1	.00000
2132	-4728.0	.00000
2149	-4688.6	.00000
2150	-4739.3	.00000
2561	-4670.1	.00000
2562	-4728.0	.00000
2579	-4688.6	.00000
2580	-4739.3	.00000
2991	-4670.1	.00000
2992	-4728.0	.00000
3009	-4688.6	.00000
3010	-4739.3	.00000
3421	-4670.1	.00000
3422	-4728.0	.00000
3439	-4688.6	.00000
3440	-4739.3	.00000
3851	-4670.1	.00000
3852	-4728.0	.00000
3869	-4688.6	.00000
3870	-4739.3	.00000
4281	-4670.1	.00000

Table 3.AB.11

4282	-4728.0	.00000
4299	-4688.6	.00000
4300	-4739.3	.00000
4711	-4670.1	.00000
4712	-4728.0	.00000
4729	-4688.6	.00000
4730	-4739.3	.00000
5141	-4670.1	.00000
5142	-4728.0	.00000
5159	-4688.6	.00000
5160	-4739.3	.00000
5571	-4670.1	.00000
5572	-4728.0	.00000
5589	-4688.6	.00000
5590	-4739.3	.00000
6001	-4670.1	.00000
6002	-4728.0	.00000
6019	-4688.6	.00000
6020	-4739.3	.00000
6431	-4670.1	.00000
6432	-4728.0	.00000
6449	-4688.6	.00000
6450	-4739.3	.00000
6861	-4670.1	.00000
6862	-4728.0	.00000
6879	-4688.6	.00000
6880	-4739.3	.00000
7291	-4670.1	.00000
7292	-4728.0	.00000
7309	-4688.6	.00000
7310	-4739.3	.00000
7721	-4670.2	.00000
7722	-4728.1	.00000
7739	-4688.6	.00000
7740	-4739.3	.00000
8151	-4670.2	.00000
8152	-4728.1	.00000
8169	-4688.7	.00000
8170	-4739.3	.00000
8581	-4670.2	.00000
8582	-4728.0	.00000
8599	-4688.6	.00000
8600	-4739.2	.00000
8635	-4719.1	.00000
8636	-4748.0	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.11 (continued)

ELEM	SEXT
1254	1109.9
8134	1109.9
7704	1109.4
1684	1109.4
2114	1109.1
7274	1109.1
4694	1109.1
5124	1109.0
4264	1109.0
5554	1109.0
3834	1109.0
3404	1109.0
5984	1109.0
2544	1109.0
6844	1109.0
2974	1109.0
6414	1109.0
8564	1108.2
824	1108.2
394	1104.5
8618	1104.5

LID

NODE	S1	S2	S3	SINT	SEQV
501	2881.8	2857.3	-1288.4	4170.3	4158.0
479	1193.2	-2279.2	-2308.9	3502.1	3487.4

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
47	1480.8	55.267	-260.54	1741.3	1606.9
10790	1480.8	55.267	-260.54	1741.3	1606.9
5420	1480.8	52.613	-257.88	1738.7	1606.1
8105	1480.8	52.617	-257.88	1738.7	1606.1
2735	1480.8	52.617	-257.88	1738.7	1606.1
49	325.11	-353.31	-445.06	770.17	728.64
10792	325.11	-353.31	-445.06	770.17	728.64
5422	323.97	-352.38	-444.87	768.85	727.03
8107	323.97	-352.37	-444.87	768.84	727.02
2737	323.97	-352.37	-444.87	768.84	727.02
126	458.82	252.03	-88.478	547.29	478.66
10869	458.82	252.03	-88.478	547.29	478.66
2814	455.42	252.04	-85.082	540.50	472.84
8184	455.42	252.04	-85.082	540.50	472.84
5499	455.40	252.04	-85.081	540.48	472.82
154	427.06	173.64	-92.300	519.36	449.82
10897	427.06	173.64	-92.300	519.36	449.82

Table 3.AB.11 (continued)

2842	423.88	173.64	-89.110	512.99	444.31
8212	423.88	173.64	-89.110	512.99	444.31
5527	423.84	173.62	-89.109	512.95	444.27
10925	405.42	98.148	-94.044	499.46	436.36
182	405.42	98.148	-94.044	499.46	436.36
2870	402.45	98.163	-90.991	493.44	431.19
8240	402.45	98.163	-90.991	493.44	431.19
5555	402.33	98.140	-90.993	493.32	431.09
10871	413.98	239.17	-68.578	482.56	423.16
128	413.98	239.17	-68.578	482.56	423.16
5501	410.99	239.18	-65.569	476.56	418.03
8186	410.97	239.17	-65.570	476.55	418.02
2816	410.97	239.17	-65.570	476.55	418.02
156	385.30	166.41	-75.371	460.67	399.12
10899	385.30	166.41	-75.371	460.67	399.12
5529	382.49	166.40	-72.542	455.03	394.24
8214	382.45	166.40	-72.541	454.99	394.20
2844	382.45	166.40	-72.541	454.99	394.20
10927	365.24	91.060	-77.930	443.17	387.39
184	365.24	91.060	-77.930	443.17	387.39
5557	362.52	91.056	-75.222	437.75	382.73
8242	362.44	91.002	-75.223	437.66	382.66
2872	362.44	91.002	-75.223	437.66	382.66
11023	251.84	-70.595	-184.55	436.40	392.04
280	251.84	-70.595	-184.55	436.40	392.04
5653	250.88	-68.844	-182.78	433.66	389.40
2968	250.58	-68.845	-182.82	433.39	389.13
8338	250.58	-68.845	-182.82	433.39	389.13
11025	335.92	170.58	-44.415	380.34	330.32
282	335.92	170.58	-44.415	380.34	330.32
5655	333.60	168.80	-41.997	375.60	326.09
2970	333.47	168.86	-41.998	375.47	325.98
8340	333.47	168.86	-41.998	375.47	325.98

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
10791	577.67	-232.03	-286.87	864.54	838.46
48	577.67	-232.03	-286.87	864.54	838.46
5421	577.55	-231.93	-286.86	864.42	838.30
8106	577.55	-231.93	-286.86	864.42	838.30
2736	577.55	-231.93	-286.86	864.42	838.30
127	434.90	244.91	-78.560	513.46	449.65
10870	434.90	244.91	-78.560	513.46	449.65
2815	431.71	244.92	-75.366	507.07	444.18
8185	431.71	244.92	-75.366	507.07	444.18
5500	431.71	244.92	-75.365	507.07	444.18
155	404.89	169.63	-83.834	488.72	423.35
10898	404.89	169.63	-83.834	488.72	423.35
2843	401.89	169.63	-80.831	482.72	418.14
8213	401.89	169.63	-80.831	482.72	418.14

Table 3.AB.11 (continued)

5528	401.88	169.62	-80.832	482.72	418.14
183	384.10	94.253	-85.987	470.09	410.78
10926	384.10	94.253	-85.987	470.09	410.78
2871	381.22	94.230	-83.115	464.33	405.84
8241	381.22	94.230	-83.115	464.33	405.84
5556	381.21	94.247	-83.116	464.32	405.83
281	335.27	61.764	-54.172	389.44	346.34
11024	335.27	61.764	-54.172	389.44	346.34
5654	332.89	61.646	-51.743	384.63	342.32
2969	332.72	61.695	-51.734	384.45	342.14
8339	332.72	61.695	-51.734	384.45	342.14

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
50	233.09	-391.32	-545.23	778.32	713.91
10793	233.09	-391.32	-545.23	778.32	713.91
5423	231.62	-390.63	-544.46	776.08	711.74
8108	231.62	-390.62	-544.46	776.08	711.74
2738	231.62	-390.62	-544.46	776.08	711.74
49	325.11	-353.31	-445.06	770.17	728.64
10792	325.11	-353.31	-445.06	770.17	728.64
5422	323.97	-352.38	-444.87	768.85	727.03
8107	323.97	-352.37	-444.87	768.84	727.02
2737	323.97	-352.37	-444.87	768.84	727.02
10794	110.61	-388.17	-514.98	625.59	572.81
51	110.61	-388.17	-514.98	625.59	572.81
5424	109.52	-387.82	-514.26	623.78	571.15
8109	109.52	-387.81	-514.25	623.77	571.15
2739	109.52	-387.81	-514.25	623.77	571.15
11025	335.92	170.58	-44.415	380.34	330.32
282	335.92	170.58	-44.415	380.34	330.32
5655	333.60	168.80	-41.997	375.60	326.09
2970	333.47	168.86	-41.998	375.47	325.98
8340	333.47	168.86	-41.998	375.47	325.98
10795	-6.1493	-337.89	-344.80	338.65	335.25
52	-6.1493	-337.89	-344.80	338.65	335.25
5425	-6.9997	-337.21	-344.63	337.63	333.98
8110	-7.0011	-337.21	-344.63	337.62	333.98
2740	-7.0011	-337.21	-344.63	337.62	333.98
283	323.92	205.25	-6.3919	330.31	289.81
11026	323.92	205.25	-6.3919	330.31	289.81
5656	321.73	201.82	-4.3070	326.04	285.63
8341	321.63	201.86	-4.3115	325.94	285.56
2971	321.63	201.86	-4.3115	325.94	285.56
284	308.92	228.23	40.500	268.42	238.54
11027	308.92	228.23	40.500	268.42	238.54
5657	306.93	223.13	42.085	264.84	234.46
2972	306.85	223.14	42.075	264.77	234.41
8342	306.85	223.14	42.075	264.77	234.41
287	272.28	180.80	39.983	232.30	202.69

Table 3.AB.11 (continued)

11030	272.28	180.80	39.983	232.30	202.69
286	292.18	286.84	64.082	228.10	225.47
11029	292.18	286.84	64.082	228.10	225.47
8344	288.98	280.81	64.726	224.25	220.28
2974	288.98	280.81	64.726	224.25	220.28
5659	289.01	280.90	64.760	224.25	220.31
10796	-84.916	-173.84	-307.95	223.03	194.47
53	-84.916	-173.84	-307.95	223.03	194.47
5426	-85.227	-175.16	-306.31	221.08	192.57
8111	-85.232	-175.16	-306.31	221.07	192.56
2741	-85.232	-175.16	-306.31	221.07	192.56
11028	285.20	235.38	65.322	219.88	199.68
285	285.20	235.38	65.322	219.88	199.68
5658	282.73	229.09	66.007	216.72	195.50
2973	282.67	229.06	65.983	216.69	195.48
8343	282.67	229.06	65.983	216.69	195.48
5660	245.18	199.11	55.355	189.83	171.50
8345	245.10	199.10	55.322	189.78	171.47
2975	245.10	199.10	55.321	189.78	171.47
5567	147.11	110.94	-13.706	160.81	146.13
2882	147.11	110.94	-13.705	160.81	146.12
8252	147.11	110.93	-13.705	160.81	146.12
54	-21.585	-162.30	-179.89	158.31	150.29
10797	-21.585	-162.30	-179.89	158.31	150.29
5539	137.41	68.400	-13.358	150.76	130.72
2854	137.41	68.408	-13.357	150.76	130.72
8224	137.41	68.408	-13.357	150.76	130.72
194	123.25	109.02	-22.773	146.02	139.45
10937	123.25	109.02	-22.773	146.02	139.45
2826	127.26	15.132	-15.976	143.24	130.50
8196	127.26	15.132	-15.975	143.24	130.50
5511	127.26	15.136	-15.975	143.24	130.49
166	115.12	62.655	-21.781	136.90	119.63
10909	115.12	62.655	-21.781	136.90	119.63
2742	-53.895	-149.15	-187.27	133.38	118.99
5427	-53.895	-149.15	-187.27	133.38	118.99
8112	-53.895	-149.15	-187.27	133.38	118.99
138	106.65	7.5219	-25.695	132.34	119.26
10881	106.65	7.5219	-25.695	132.34	119.26

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	2040.9	1966.1	-928.42	2969.3	2932.6
27	842.98	-1437.0	-1532.1	2375.1	2329.0

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.11 (continued)

55	57.448	-95.336	-121.19	178.64	167.21
10798	57.448	-95.336	-121.19	178.64	167.21
288	105.36	89.762	-67.696	173.05	165.81
11031	105.36	89.762	-67.696	173.05	165.81
8113	23.110	-67.959	-137.02	160.13	139.11
2743	23.110	-67.959	-137.02	160.13	139.11
5428	23.110	-67.959	-137.01	160.12	139.11
5568	130.46	106.69	-11.682	142.14	131.87
2883	130.43	106.67	-11.683	142.12	131.85
8253	130.43	106.67	-11.676	142.11	131.84
2976	103.69	65.024	-34.008	137.69	123.01
8346	103.69	65.026	-34.008	137.69	123.01
5661	103.65	65.039	-34.010	137.66	122.99
5540	121.89	64.165	-10.959	132.85	115.38
2855	121.88	64.177	-10.959	132.84	115.37
8225	121.88	64.178	-10.957	132.83	115.37
10938	109.25	105.33	-20.988	130.24	128.32
195	109.25	105.33	-20.988	130.24	128.32
5512	119.79	40.347	-9.6800	129.47	113.08
2827	119.79	40.343	-9.6813	129.47	113.08
8197	119.79	40.343	-9.6798	129.46	113.08
167	102.09	58.995	-19.689	121.78	106.95
10910	102.09	58.995	-19.689	121.78	106.95
139	100.36	34.733	-18.598	118.96	103.20
10882	100.36	34.733	-18.598	118.96	103.20

Table 3.AB.12

LANDS

Total compressive force = 21011.913

Total friction force = 991256.36

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-4832.0	.00000
412	-4738.7	.00000
429	-4815.9	.00000
430	-4655.0	.00000
841	-4896.7	.00000
842	-4710.7	.00000
859	-4816.2	.00000
860	-4655.9	.00000
1271	-4896.9	.00000
1272	-4711.2	.00000
1289	-4816.2	.00000
1290	-4656.0	.00000
1701	-4896.6	.00000
1702	-4710.9	.00000
1719	-4816.0	.00000
1720	-4655.8	.00000
2131	-4896.5	.00000
2132	-4710.8	.00000
2149	-4815.9	.00000
2150	-4655.7	.00000
2561	-4896.4	.00000
2562	-4710.7	.00000
2579	-4815.9	.00000
2580	-4655.7	.00000
2991	-4896.4	.00000
2992	-4710.7	.00000
3009	-4815.9	.00000
3010	-4655.7	.00000
3421	-4896.4	.00000
3422	-4710.7	.00000
3439	-4815.9	.00000
3440	-4655.7	.00000
3851	-4896.4	.00000
3852	-4710.7	.00000
3869	-4815.9	.00000
3870	-4655.7	.00000
4281	-4896.4	.00000

Table 3.AB.12

4282	-4710.7	.00000
4299	-4815.9	.00000
4300	-4655.7	.00000
4711	-4896.4	.00000
4712	-4710.7	.00000
4729	-4815.9	.00000
4730	-4655.7	.00000
5141	-4896.4	.00000
5142	-4710.7	.00000
5159	-4815.9	.00000
5160	-4655.7	.00000
5571	-4896.4	.00000
5572	-4710.7	.00000
5589	-4815.9	.00000
5590	-4655.7	.00000
6001	-4896.4	.00000
6002	-4710.7	.00000
6019	-4815.9	.00000
6020	-4655.7	.00000
6431	-4896.4	.00000
6432	-4710.7	.00000
6449	-4815.9	.00000
6450	-4655.7	.00000
6861	-4896.4	.00000
6862	-4710.7	.00000
6879	-4815.9	.00000
6880	-4655.7	.00000
7291	-4896.5	.00000
7292	-4710.8	.00000
7309	-4816.0	.00000
7310	-4655.8	.00000
7721	-4896.6	.00000
7722	-4710.9	.00000
7739	-4816.2	.00000
7740	-4656.0	.00000
8151	-4896.9	.00000
8152	-4711.2	.00000
8169	-4816.2	.00000
8170	-4655.9	.00000
8581	-4896.7	.00000
8582	-4710.7	.00000
8599	-4815.9	.00000
8600	-4655.0	.00000
8635	-4832.0	.00000
8636	-4738.7	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.12 (continued)

ELEM	SEXT
1254	561.48
8134	561.48
7704	555.48
1684	555.48
2114	552.58
7274	552.58
4694	552.26
4264	552.19
5124	552.19
5554	551.98
3834	551.98
3404	551.63
5984	551.63
2544	551.29
6844	551.29
6414	551.26
2974	551.26
8564	545.73
824	545.73
8618	506.31
394	506.31

LID

NODE	S1	S2	S3	SINT	SEQV
479	1983.8	-18462.	-18478.	20461.	20453.
501	-2426.5	-9245.8	-9293.7	6867.2	6843.3

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
10925	-398.46	-18761.	-19807.	19409.	18907.
182	-398.46	-18761.	-19807.	19409.	18907.
5555	-518.70	-18761.	-19687.	19168.	18723.
8240	-518.68	-18761.	-19686.	19167.	18722.
2870	-518.68	-18761.	-19686.	19167.	18722.
10897	-352.27	-17023.	-19365.	19013.	17956.
154	-352.27	-17023.	-19365.	19013.	17956.
5527	-469.33	-17023.	-19248.	18779.	17771.
8212	-469.34	-17023.	-19248.	18778.	17771.
2842	-469.34	-17023.	-19248.	18778.	17771.
10869	-265.00	-15513.	-18912.	18647.	17201.
126	-265.00	-15513.	-18912.	18647.	17201.
280	-1421.9	-5955.6	-19839.	18417.	16621.
11023	-1421.9	-5955.6	-19839.	18417.	16621.
5499	-380.41	-15513.	-18797.	18416.	17014.
8184	-380.42	-15513.	-18796.	18416.	17014.
2814	-380.42	-15513.	-18796.	18416.	17014.

Table 3.AB.12 (continued)

8338	-1525.4	-5942.9	-19732.	18207.	16449.
2968	-1525.4	-5942.9	-19732.	18207.	16449.
5653	-1525.3	-5942.5	-19729.	18204.	16446.
47	5335.1	-2991.4	-8726.6	14062.	12247.
10790	5335.1	-2991.4	-8726.6	14062.	12247.
5420	5334.9	-3011.9	-8705.9	14041.	12232.
2735	5334.9	-3011.9	-8705.9	14041.	12232.
8105	5334.9	-3011.9	-8705.9	14041.	12232.
11025	-1975.3	-11499.	-13629.	11654.	10748.
282	-1975.3	-11499.	-13629.	11654.	10748.
8340	-2028.4	-11516.	-13576.	11547.	10668.
2970	-2028.4	-11516.	-13576.	11547.	10668.
5655	-2028.4	-11517.	-13575.	11546.	10667.
184	-890.70	-10167.	-10251.	9360.4	9318.9
10927	-890.70	-10167.	-10251.	9360.4	9318.9
2872	-948.91	-10168.	-10194.	9244.9	9232.1
8242	-948.91	-10168.	-10194.	9244.9	9232.1
5557	-948.90	-10168.	-10193.	9244.1	9231.4
10899	-848.10	-8506.9	-9868.0	9019.9	8422.3
156	-848.10	-8506.9	-9868.0	9019.9	8422.3
2844	-903.66	-8507.0	-9812.6	8909.0	8333.2
8214	-903.66	-8507.0	-9812.6	8909.0	8333.2
5529	-903.67	-8507.0	-9812.3	8908.6	8333.0
10871	-724.38	-6622.9	-9327.4	8603.0	7619.7
128	-724.38	-6622.9	-9327.4	8603.0	7619.7
2816	-777.82	-6622.8	-9274.0	8496.1	7529.2
8186	-777.82	-6622.8	-9274.0	8496.1	7529.2
5501	-777.80	-6622.8	-9273.8	8496.0	7529.1
49	-2283.2	-5837.6	-10410.	8126.8	7056.4
10792	-2283.2	-5837.6	-10410.	8126.8	7056.4
5422	-2288.6	-5836.9	-10405.	8116.8	7047.8
8107	-2288.6	-5836.9	-10405.	8116.7	7047.8
2737	-2288.6	-5836.9	-10405.	8116.7	7047.8

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
11024	-2058.6	-12386.	-18939.	16880.	14740.
281	-2058.6	-12386.	-18939.	16880.	14740.
8339	-2161.7	-12389.	-18836.	16674.	14563.
2969	-2161.7	-12389.	-18836.	16674.	14563.
5654	-2161.8	-12390.	-18834.	16672.	14562.
10926	-645.03	-14480.	-14947.	14302.	14074.
183	-645.03	-14480.	-14947.	14302.	14074.
5556	-733.73	-14480.	-14858.	14124.	13939.
8241	-733.73	-14481.	-14858.	14124.	13939.
2871	-733.73	-14481.	-14858.	14124.	13939.
10898	-600.11	-12785.	-14536.	13936.	13148.
155	-600.11	-12785.	-14536.	13936.	13148.
5528	-685.93	-12785.	-14450.	13764.	13012.
8213	-685.93	-12785.	-14450.	13764.	13012.

Table 3.AB.12 (continued)

2843	-685.93	-12785.	-14450.	13764.	13012.
10870	-495.07	-11092.	-14040.	13545.	12338.
127	-495.07	-11092.	-14040.	13545.	12338.
5500	-578.99	-11092.	-13956.	13377.	12200.
8185	-579.00	-11092.	-13956.	13377.	12200.
2815	-579.00	-11092.	-13956.	13377.	12200.
48	-2874.7	-8956.6	-11739.	8863.9	7851.7
10791	-2874.7	-8956.6	-11739.	8863.9	7851.7
5421	-2923.0	-8978.2	-11669.	8745.8	7758.7
8106	-2923.0	-8978.2	-11669.	8745.8	7758.6
2736	-2923.0	-8978.2	-11669.	8745.8	7758.6

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
10796	21940.	19910.	-2203.2	24143.	23195.
53	21940.	19910.	-2203.2	24143.	23195.
5426	21801.	19924.	-2078.6	23880.	22999.
8111	21801.	19924.	-2078.5	23880.	22999.
2741	21801.	19924.	-2078.5	23880.	22999.
10795	13667.	6179.5	-5553.5	19220.	16780.
52	13667.	6179.5	-5553.5	19220.	16780.
5425	13569.	6180.1	-5456.3	19025.	16612.
8110	13569.	6180.0	-5456.3	19025.	16612.
2740	13569.	6180.0	-5456.3	19025.	16612.
286	14150.	10220.	-1089.0	15239.	13703.
11029	14150.	10220.	-1089.0	15239.	13703.
5659	14078.	10155.	-1037.0	15115.	13585.
8344	14077.	10155.	-1037.4	15115.	13585.
2974	14077.	10155.	-1037.4	15115.	13585.
8112	11214.	226.00	-3078.4	14292.	12960.
2742	11214.	226.00	-3078.4	14292.	12960.
5427	11214.	226.00	-3078.4	14292.	12960.
51	6259.5	-192.49	-7957.3	14217.	12330.
10794	6259.5	-192.49	-7957.3	14217.	12330.
5424	6179.9	-190.66	-7879.6	14059.	12194.
2739	6179.9	-190.65	-7879.5	14059.	12194.
8109	6179.9	-190.65	-7879.5	14059.	12194.
10797	9859.8	-250.51	-4076.9	13937.	12472.
54	9859.8	-250.51	-4076.9	13937.	12472.
11030	12173.	8320.5	-757.09	12930.	11498.
287	12173.	8320.5	-757.09	12930.	11498.
5660	11615.	9185.9	-246.57	11862.	10853.
8345	11614.	9185.8	-246.86	11861.	10853.
2975	11614.	9185.8	-246.87	11861.	10853.
11025	-1975.3	-11499.	-13629.	11654.	10748.
282	-1975.3	-11499.	-13629.	11654.	10748.
8340	-2028.4	-11516.	-13576.	11547.	10668.
2970	-2028.4	-11516.	-13576.	11547.	10668.
5655	-2028.4	-11517.	-13575.	11546.	10667.
285	4481.5	3343.4	-4221.1	8702.6	8193.1

Table 3.AB.12 (continued)

11028	4481.5	3343.4	-4221.1	8702.6	8193.1
5658	4430.1	3302.3	-4205.9	8636.0	8131.0
8343	4429.7	3301.8	-4206.0	8635.7	8130.6
2973	4429.7	3301.8	-4206.0	8635.7	8130.6
10793	682.16	-2712.8	-7687.6	8369.7	7291.3
50	682.16	-2712.8	-7687.6	8369.7	7291.3
5423	635.98	-2705.3	-7649.0	8285.0	7219.6
8108	636.02	-2705.3	-7649.0	8285.0	7219.6
2738	636.02	-2705.3	-7649.0	8285.0	7219.6
49	-2283.2	-5837.6	-10410.	8126.8	7056.4
10792	-2283.2	-5837.6	-10410.	8126.8	7056.4
5422	-2288.6	-5836.9	-10405.	8116.8	7047.8
8107	-2288.6	-5836.9	-10405.	8116.7	7047.8
2737	-2288.6	-5836.9	-10405.	8116.7	7047.8
284	113.93	-2673.6	-6659.0	6772.9	5896.0
11027	113.93	-2673.6	-6659.0	6772.9	5896.0
5657	83.243	-2694.6	-6661.2	6744.5	5871.1
8342	83.067	-2695.4	-6661.1	6744.1	5870.7
2972	83.067	-2695.4	-6661.1	6744.1	5870.7
5567	5298.8	4415.8	-1205.7	6504.5	6111.0
2882	5298.8	4415.8	-1205.7	6504.5	6111.0
8252	5298.8	4415.8	-1205.7	6504.5	6111.0
11026	-1702.4	-7724.6	-8120.6	6418.2	6229.7
283	-1702.4	-7724.6	-8120.6	6418.2	6229.7
5656	-1724.2	-7718.8	-8139.1	6414.8	6215.4
8341	-1724.3	-7719.8	-8138.7	6414.3	6215.5
2971	-1724.3	-7719.8	-8138.7	6414.3	6215.5
194	4435.9	4356.1	-1928.8	6364.7	6325.2
10937	4435.9	4356.1	-1928.8	6364.7	6325.2
5539	5030.4	3325.6	-1206.6	6237.0	5583.3
2854	5030.4	3325.6	-1206.5	6237.0	5583.3
8224	5030.4	3325.6	-1206.5	6237.0	5583.3
166	4211.1	3167.1	-1915.6	6126.7	5677.2
10909	4211.1	3167.1	-1915.6	6126.7	5677.2
2826	4780.6	2212.8	-1221.0	6001.6	5215.6
8196	4780.6	2212.8	-1221.0	6001.6	5215.6
5511	4780.6	2212.8	-1221.0	6001.6	5215.6
138	4001.7	1957.4	-1924.8	5926.5	5214.1
10881	4001.7	1957.4	-1924.8	5926.5	5214.1

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
27	5421.3	-26975.	-27256.	32677.	32538.
1	-1567.1	-3759.6	-7905.2	6338.1	5575.2

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.12 (continued)

5428	16694.	-879.00	-2501.7	19196.	18438.
8113	16694.	-879.00	-2501.7	19196.	18438.
2743	16694.	-879.00	-2501.7	19196.	18438.
55	14687.	-1585.4	-3852.0	18539.	17516.
10798	14687.	-1585.4	-3852.0	18539.	17516.
195	15100.	10098.	-1783.4	16883.	15020.
10938	15100.	10098.	-1783.4	16883.	15020.
5568	14705.	12054.	-992.40	15698.	14554.
2883	14705.	12054.	-992.41	15698.	14554.
8253	14705.	12054.	-992.34	15697.	14554.
167	13744.	9872.0	-1758.9	15503.	13975.
10910	13744.	9872.0	-1758.9	15503.	13975.
2855	13459.	11785.	-979.68	14438.	13678.
8225	13459.	11785.	-979.66	14438.	13678.
5540	13458.	11785.	-979.68	14438.	13678.
139	12530.	9685.8	-1755.6	14285.	13097.
10882	12530.	9685.8	-1755.6	14285.	13097.
2976	12157.	1020.4	-2025.1	14182.	12931.
8346	12157.	1020.5	-2025.1	14182.	12931.
5661	12157.	1020.6	-2025.1	14182.	12931.
288	10706.	1824.4	-3461.8	14168.	12401.
11031	10706.	1824.4	-3461.8	14168.	12401.
5512	12344.	11563.	-979.51	13324.	12951.
2827	12344.	11563.	-979.52	13324.	12951.
8197	12344.	11563.	-979.50	13324.	12951.

Table 3.AB.13

LANDS

Total compressive force = -314894.336

Total friction force = 313608.4

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-4833.2	.00000
412	-4799.6	.00000
429	-4873.4	.00000
430	-4817.0	.00000
841	-4898.0	.00000
842	-4830.7	.00000
859	-4873.2	.00000
860	-4816.6	.00000
1271	-4897.9	.00000
1272	-4830.5	.00000
1289	-4873.2	.00000
1290	-4816.6	.00000
1701	-4898.0	.00000
1702	-4830.6	.00000
1719	-4873.3	.00000
1720	-4816.6	.00000
2131	-4898.1	.00000
2132	-4830.7	.00000
2149	-4873.4	.00000
2150	-4816.7	.00000
2561	-4898.2	.00000
2562	-4830.7	.00000
2579	-4873.4	.00000
2580	-4816.7	.00000
2991	-4898.2	.00000
2992	-4830.7	.00000
3009	-4873.4	.00000
3010	-4816.7	.00000
3421	-4898.2	.00000
3422	-4830.7	.00000
3439	-4873.4	.00000
3440	-4816.7	.00000
3851	-4898.2	.00000
3852	-4830.7	.00000
3869	-4873.4	.00000
3870	-4816.7	.00000
4281	-4898.2	.00000

Table 3.AB.13

4282	-4830.7	.00000
4299	-4873.4	.00000
4300	-4816.7	.00000
4711	-4898.2	.00000
4712	-4830.7	.00000
4729	-4873.4	.00000
4730	-4816.7	.00000
5141	-4898.2	.00000
5142	-4830.7	.00000
5159	-4873.4	.00000
5160	-4816.7	.00000
5571	-4898.2	.00000
5572	-4830.7	.00000
5589	-4873.4	.00000
5590	-4816.7	.00000
6001	-4898.2	.00000
6002	-4830.7	.00000
6019	-4873.4	.00000
6020	-4816.7	.00000
6431	-4898.2	.00000
6432	-4830.7	.00000
6449	-4873.4	.00000
6450	-4816.7	.00000
6861	-4898.2	.00000
6862	-4830.7	.00000
6879	-4873.4	.00000
6880	-4816.7	.00000
7291	-4898.1	.00000
7292	-4830.7	.00000
7309	-4873.3	.00000
7310	-4816.6	.00000
7721	-4898.0	.00000
7722	-4830.6	.00000
7739	-4873.2	.00000
7740	-4816.6	.00000
8151	-4897.9	.00000
8152	-4830.5	.00000
8169	-4873.2	.00000
8170	-4816.6	.00000
8581	-4898.0	.00000
8582	-4830.7	.00000
8599	-4873.4	.00000
8600	-4817.0	.00000
8635	-4833.2	.00000
8636	-4799.6	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.13 (continued)

ELEM	SEXT
1254	878.35
8134	878.35
7704	876.57
1684	876.57
2114	875.09
7274	875.09
4694	874.67
5124	874.63
4264	874.63
5554	874.53
3834	874.53
3404	874.38
5984	874.38
2544	874.36
6844	874.36
2974	874.25
6414	874.25
8564	870.77
824	870.77
394	855.97
8618	855.97

LID

NODE	S1	S2	S3	SINT	SEQV
501	1504.9	-3496.7	-3524.9	5029.9	5015.8
479	2631.7	2595.7	-1511.3	4143.0	4125.1

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
10790	32192.	-3897.2	-6175.3	38368.	37281.
47	32192.	-3897.2	-6175.3	38368.	37281.
8105	32192.	-3898.0	-6173.9	38366.	37280.
2735	32192.	-3898.0	-6173.9	38366.	37280.
5420	32192.	-3898.0	-6173.9	38366.	37280.
10792	4670.8	-8316.8	-15208.	19879.	17483.
49	4670.8	-8316.8	-15208.	19879.	17483.
8107	4635.3	-8348.7	-15141.	19776.	17404.
2737	4635.3	-8348.7	-15141.	19776.	17404.
5422	4635.3	-8348.7	-15140.	19776.	17404.
11025	8376.1	2204.8	316.02	8060.1	7301.3
282	8376.1	2204.8	316.02	8060.1	7301.3
5655	8376.2	2196.7	325.86	8050.3	7297.1
8340	8375.9	2197.4	325.89	8050.0	7296.6
2970	8375.9	2197.4	325.89	8050.0	7296.6
8242	7398.1	35.420	-8.8799	7407.0	7384.9
2872	7398.1	35.420	-8.8799	7407.0	7384.9

Table 3.AB.13 (continued)

184	7398.0	35.763	-8.9808	7407.0	7384.7
10927	7398.0	35.763	-8.9808	7407.0	7384.7
5557	7397.9	35.253	-8.8917	7406.7	7384.8
2870	7328.5	21.083	2.6636	7325.8	7316.6
8240	7328.5	21.083	2.6636	7325.8	7316.6
5555	7328.5	21.304	2.6729	7325.8	7316.5
182	7328.4	20.810	2.6649	7325.7	7316.6
10925	7328.4	20.810	2.6649	7325.7	7316.6
156	6521.7	70.847	-3.1532	6524.8	6488.2
10899	6521.7	70.847	-3.1532	6524.8	6488.2
8214	6521.7	70.626	-3.0371	6524.7	6488.2
2844	6521.7	70.626	-3.0371	6524.7	6488.2
5529	6521.6	70.462	-3.0416	6524.7	6488.2
5527	6477.3	67.238	9.2769	6468.0	6439.2
2842	6477.2	67.049	9.2772	6468.0	6439.3
8212	6477.2	67.049	9.2772	6468.0	6439.3
154	6477.2	66.981	9.2209	6468.0	6439.3
10897	6477.2	66.981	9.2209	6468.0	6439.3
280	6603.0	1855.5	319.13	6283.9	5673.9
11023	6603.0	1855.5	319.13	6283.9	5673.9
2968	6603.7	1852.5	327.96	6275.7	5669.3
8338	6603.7	1852.5	327.96	6275.7	5669.3
5653	6603.5	1850.8	327.92	6275.5	5669.6
126	5758.3	130.73	-62.915	5821.2	5726.8
10869	5758.3	130.73	-62.915	5821.2	5726.8
5499	5758.3	128.97	-61.023	5819.4	5726.7
8184	5758.3	128.90	-61.023	5819.3	5726.7
2814	5758.3	128.90	-61.023	5819.3	5726.7
10871	5442.6	89.026	66.516	5376.0	5364.8
128	5442.6	89.026	66.516	5376.0	5364.8
5501	5442.6	85.078	70.344	5372.2	5364.9
2816	5442.6	85.076	70.408	5372.1	5364.8
8186	5442.6	85.076	70.408	5372.1	5364.8

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
48	10517.	-4915.6	-13417.	23934.	21015.
10791	10517.	-4915.6	-13417.	23934.	21015.
2736	10516.	-4984.8	-13346.	23862.	20971.
8106	10516.	-4984.8	-13346.	23862.	20971.
5421	10516.	-4984.8	-13346.	23862.	20971.
11024	7981.7	2109.0	268.38	7713.3	6977.5
281	7981.7	2109.0	268.38	7713.3	6977.5
5654	7981.6	2099.3	279.75	7701.9	6972.5
8339	7981.5	2100.2	279.75	7701.7	6972.1
2969	7981.5	2100.2	279.75	7701.7	6972.1
8241	7364.8	29.120	-2.9291	7367.8	7351.8
2871	7364.8	29.120	-2.9291	7367.8	7351.8
10926	7364.7	29.161	-2.9741	7367.7	7351.7
183	7364.7	29.161	-2.9741	7367.7	7351.7

Table 3.AB.13 (continued)

5556	7364.7	29.139	-2.9309	7367.6	7351.6
10898	6499.8	69.266	3.1640	6496.6	6463.8
155	6499.8	69.266	3.1640	6496.6	6463.8
5528	6499.8	69.190	3.2474	6496.5	6463.8
8213	6499.8	69.185	3.2499	6496.5	6463.8
2843	6499.8	69.185	3.2499	6496.5	6463.8
10870	5586.9	93.275	7.0331	5579.9	5537.2
127	5586.9	93.275	7.0331	5579.9	5537.2
5500	5586.9	91.124	9.1865	5577.7	5537.2
8185	5586.9	91.124	9.1855	5577.7	5537.2
2815	5586.9	91.124	9.1855	5577.7	5537.2

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
10792	4670.8	-8316.8	-15208.	19879.	17483.
49	4670.8	-8316.8	-15208.	19879.	17483.
8107	4635.3	-8348.7	-15141.	19776.	17404.
2737	4635.3	-8348.7	-15141.	19776.	17404.
5422	4635.3	-8348.7	-15140.	19776.	17404.
10793	3928.7	-8232.9	-13997.	17925.	15850.
50	3928.7	-8232.9	-13997.	17925.	15850.
8108	3887.8	-8244.8	-13944.	17832.	15774.
2738	3887.8	-8244.8	-13944.	17832.	15774.
5423	3887.8	-8244.8	-13944.	17832.	15774.
51	3142.6	-6179.1	-11959.	15101.	13198.
10794	3142.6	-6179.1	-11959.	15101.	13198.
2739	3106.0	-6185.4	-11916.	15022.	13131.
8109	3106.0	-6185.4	-11916.	15022.	13131.
5424	3106.0	-6185.4	-11916.	15022.	13131.
53	2297.3	-7964.1	-10765.	13062.	11911.
10796	2297.3	-7964.1	-10765.	13062.	11911.
5426	2228.3	-7967.3	-10693.	12921.	11797.
8111	2228.3	-7967.2	-10693.	12921.	11797.
2741	2228.3	-7967.2	-10693.	12921.	11797.
10795	3208.1	-1709.5	-8953.8	12162.	10597.
52	3208.1	-1709.5	-8953.8	12162.	10597.
8110	3176.9	-1724.6	-8907.4	12084.	10527.
2740	3176.9	-1724.6	-8907.4	12084.	10527.
5425	3176.9	-1724.6	-8907.4	12084.	10527.
11029	8692.3	1997.8	-27.852	8720.2	7904.5
286	8692.3	1997.8	-27.852	8720.2	7904.5
5659	8687.9	1985.8	-16.808	8704.7	7896.2
2974	8688.1	1985.7	-16.547	8704.6	7896.2
8344	8688.1	1985.7	-16.547	8704.6	7896.2
11025	8376.1	2204.8	316.02	8060.1	7301.3
282	8376.1	2204.8	316.02	8060.1	7301.3
5655	8376.2	2196.7	325.86	8050.3	7297.1
8340	8375.9	2197.4	325.89	8050.0	7296.6
2970	8375.9	2197.4	325.89	8050.0	7296.6
283	8150.6	2083.2	288.49	7862.1	7136.0

Table 3.AB.13 (continued)

11026	8150.6	2083.2	288.49	7862.1	7136.0
5656	8150.0	2076.4	297.22	7852.8	7131.6
2971	8149.9	2076.9	297.32	7852.6	7131.3
8341	8149.9	2076.9	297.32	7852.6	7131.3
11027	7677.7	1795.3	-61.259	7739.0	6997.9
284	7677.7	1795.3	-61.259	7739.0	6997.9
5657	7674.9	1788.1	-52.926	7727.8	6991.5
2972	7674.8	1788.5	-52.739	7727.5	6991.2
8342	7674.8	1788.5	-52.739	7727.5	6991.2
11028	7004.0	1445.0	-412.64	7416.7	6684.3
285	7004.0	1445.0	-412.64	7416.7	6684.3
5658	7001.3	1437.8	-402.57	7403.8	6676.7
8343	7001.3	1437.9	-402.29	7403.6	6676.5
2973	7001.3	1437.9	-402.29	7403.6	6676.5
287	7786.7	1336.4	558.04	7228.6	6872.6
11030	7786.7	1336.4	558.04	7228.6	6872.6
5660	7383.0	1473.8	425.39	6957.7	6497.2
2975	7383.1	1473.6	425.56	6957.5	6497.2
8345	7383.1	1473.6	425.56	6957.5	6497.2
10797	2473.6	76.606	-4242.8	6716.4	5895.5
54	2473.6	76.606	-4242.8	6716.4	5895.5
5427	1892.5	21.356	-4823.8	6716.3	6003.6
2742	1892.5	21.354	-4823.8	6716.3	6003.6
8112	1892.5	21.352	-4823.8	6716.3	6003.6
10937	3452.2	-1.5343	-58.125	3510.3	3482.4
194	3452.2	-1.5343	-58.125	3510.3	3482.4
8252	3104.2	.18489	-69.077	3173.3	3139.2
2882	3104.2	.18434	-69.077	3173.3	3139.2
5567	3104.2	.18696	-69.059	3173.2	3139.2
10909	2591.1	.75032	-3.8922	2595.0	2592.7
166	2591.1	.75032	-3.8922	2595.0	2592.7
8224	2337.0	-.46199	-4.6170	2341.6	2339.6
2854	2337.0	-.46198	-4.6170	2341.6	2339.6
5539	2337.0	-.46069	-4.6063	2341.6	2339.6
138	1447.7	107.52	-24.850	1472.6	1411.1
10881	1447.7	107.52	-24.850	1472.6	1411.1
8196	1302.8	128.60	-14.597	1317.4	1251.9
2826	1302.8	128.60	-14.596	1317.4	1251.9
5511	1302.8	128.60	-14.596	1317.4	1251.9

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	42290.	40681.	-19596.	61885.	61097.
27	18038.	-31606.	-33559.	51597.	50649.

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV

Table 3.AB.13 (continued)

55	1802.2	61.559	-3839.3	5641.5	5003.7
10798	1802.2	61.559	-3839.3	5641.5	5003.7
5428	1081.9	-12.944	-4366.1	5448.0	4991.4
8113	1081.9	-12.946	-4366.1	5447.9	4991.4
2743	1081.8	-12.944	-4366.1	5447.9	4991.4
195	3575.0	-4.5857	-34.152	3609.2	3594.5
10938	3575.0	-4.5857	-34.152	3609.2	3594.5
2883	3219.5	-3.1287	-40.775	3260.3	3241.6
8253	3219.5	-3.1550	-40.775	3260.3	3241.6
5568	3219.5	-3.1395	-40.800	3260.3	3241.6
167	2565.1	2.2240	-6.8497	2571.9	2567.4
10910	2565.1	2.2240	-6.8497	2571.9	2567.4
5540	2312.4	1.3140	-8.2467	2320.6	2315.9
2855	2312.4	1.3203	-8.2156	2320.6	2315.9
8225	2312.4	1.3037	-8.2156	2320.6	2315.9
139	2041.2	189.56	-12.560	2053.7	1960.5
10882	2041.2	189.56	-12.560	2053.7	1960.5
8197	1850.0	226.16	-3.4547	1853.4	1750.0
2827	1850.0	226.16	-3.4469	1853.4	1750.0
5512	1850.0	226.14	-3.4499	1853.4	1750.0
288	1060.4	-320.11	-641.92	1702.3	1566.4
11031	1060.4	-320.11	-641.92	1702.3	1566.4
2976	556.36	-368.56	-467.60	1024.0	978.21
8346	556.36	-368.56	-467.60	1024.0	978.21
5661	556.27	-368.15	-467.60	1023.9	977.94

Table 3.AB.14

LANDS

Total compressive force = 25669.7745

Total friction force = 473641.506

SEALS

Components: Element, Vertical, Status

Status: close=0; open=1

STAT ELEM	MIXED STOTAL	MIXED LANDSTAT
411	-5222.8	.00000
412	-5142.5	.00000
429	-5329.4	.00000
430	-5348.5	.00000
841	-5518.6	.00000
842	-5369.3	.00000
859	-5131.8	.00000
860	-5127.2	.00000
1271	-5126.9	.00000
1272	-5026.2	.00000
1289	-4862.9	.00000
1290	-4844.0	.00000
1701	-4771.2	.00000
1702	-4735.1	.00000
1719	-4656.0	.00000
1720	-4646.6	.00000
2131	-4542.7	.00000
2132	-4571.8	.00000
2149	-4538.0	.00000
2150	-4557.4	.00000
2561	-4426.0	.00000
2562	-4510.3	.00000
2579	-4488.8	.00000
2580	-4543.0	.00000
2991	-4384.7	.00000
2992	-4510.4	.00000
3009	-4497.4	.00000
3010	-4571.5	.00000
3421	-4412.1	.00000
3422	-4552.2	.00000
3439	-4531.4	.00000
3440	-4620.1	.00000
3851	-4453.6	.00000
3852	-4596.8	.00000
3869	-4568.9	.00000
3870	-4658.7	.00000
4281	-4502.3	.00000

Table 3.AB.14

4282	-4632.2	.00000
4299	-4605.8	.00000
4300	-4688.0	.00000
4711	-4559.5	.00000
4712	-4668.7	.00000
4729	-4645.2	.00000
4730	-4715.8	.00000
5141	-4618.1	.00000
5142	-4703.8	.00000
5159	-4683.3	.00000
5160	-4740.7	.00000
5571	-4673.4	.00000
5572	-4735.4	.00000
5589	-4717.8	.00000
5590	-4761.9	.00000
6001	-4722.5	.00000
6002	-4763.1	.00000
6019	-4748.6	.00000
6020	-4780.7	.00000
6431	-4765.9	.00000
6432	-4788.2	.00000
6449	-4775.3	.00000
6450	-4797.7	.00000
6861	-4801.7	.00000
6862	-4809.3	.00000
6879	-4796.6	.00000
6880	-4811.3	.00000
7291	-4829.1	.00000
7292	-4825.6	.00000
7309	-4812.4	.00000
7310	-4821.4	.00000
7721	-4849.1	.00000
7722	-4837.6	.00000
7739	-4823.5	.00000
7740	-4828.7	.00000
8151	-4862.7	.00000
8152	-4845.9	.00000
8169	-4830.7	.00000
8170	-4833.9	.00000
8581	-4871.0	.00000
8582	-4851.6	.00000
8599	-4834.6	.00000
8600	-4837.6	.00000
8635	-4821.3	.00000
8636	-4811.5	.00000

BOLTS

Components: Maximum Stress

STAT MIXED

Table 3.AB.14 (continued)

ELEM	SEXT
394	12285.
824	9224.3
2114	4742.7
2544	4400.4
2974	3301.9
1684	2959.3
8618	2373.0
8564	2287.4
8134	2152.2
7704	1982.3
1254	1974.6
7274	1761.8
3404	1739.4
6844	1505.0
6414	1215.1
5984	938.07
5554	715.24
3834	649.45
5124	481.39
4694	199.07
4264	153.86

LID

NODE	S1	S2	S3	SINT	SEQV
501	6357.7	-692.75	-4817.1	11175.	9787.6
479	1399.5	430.43	-5203.0	6602.5	6175.3

INNER SHELL - Exterior planes

NODE	S1	S2	S3	SINT	SEQV
47	34499.	23600.	-5714.0	40213.	36022.
280	34229.	20543.	-514.42	34744.	30314.
2968	3877.1	-1793.7	-25811.	29688.	27298.
2735	12768.	-2881.0	-13992.	26761.	23287.
282	11988.	413.43	-8706.7	20694.	17964.
2970	1947.3	-1545.9	-14451.	16398.	14960.
2737	2383.2	-6558.3	-12112.	14496.	12667.
2816	14023.	7361.1	301.64	13722.	11885.
2872	13900.	7162.8	210.16	13690.	11856.
128	2946.8	700.00	-10507.	13453.	12483.
184	3031.4	517.91	-10399.	13431.	12367.
182	14491.	7470.1	1368.4	13123.	11374.
156	2830.9	1030.9	-10167.	12998.	12198.
2844	12871.	7907.8	142.03	12729.	11112.
126	13932.	7374.6	1231.5	12700.	11001.
154	13916.	7786.1	1319.7	12596.	10910.
2842	76.209	-212.10	-11647.	11723.	11582.

Table 3.AB.14 (continued)

2870	-246.01	-830.32	-11852.	11606.	11325.
2814	-290.90	-853.07	-11752.	11461.	11191.
49	-636.64	-7508.7	-11860.	11223.	9801.1
5420	5578.2	-784.00	-5431.5	11010.	9573.2
5653	3411.9	-383.81	-6325.1	9737.0	8500.4
8338	5888.1	241.03	-2324.6	8212.7	7277.4
8105	4328.5	323.37	-3124.1	7452.6	6460.2
5655	2547.9	525.28	-4504.6	7052.5	6290.0
5422	1309.0	-2010.5	-5147.2	6456.2	5592.0
8340	3964.3	611.29	-2012.3	5976.6	5188.7
5499	4538.2	-37.143	-929.59	5467.8	5080.7
8107	3772.5	823.57	-1671.7	5444.2	4720.2
10899	72.561	-556.09	-5221.2	5293.7	5009.1
8184	2276.6	-10.110	-2560.9	4837.4	4191.4
10790	3563.1	514.01	-1232.9	4796.1	4204.2
5555	3358.5	-19.055	-1228.3	4586.8	4117.6
10897	68.358	-634.22	-4426.5	4494.8	4188.0
8240	2692.3	19.926	-1766.7	4459.0	3886.9
10927	21.472	-693.87	-4313.8	4335.3	4025.6
8212	2289.0	36.785	-1785.8	4074.8	3535.4
8242	-29.613	-1116.4	-4047.6	4018.0	3599.9
10792	3692.6	1596.3	-246.39	3939.0	3413.6
8186	-48.725	-203.97	-3932.8	3884.1	3808.8
8214	-72.260	-2335.5	-3735.0	3662.7	3201.3
5557	3270.8	44.405	-239.94	3510.8	3377.6
10925	35.248	-352.05	-3451.8	3487.1	3310.5
10871	2.5547	-839.42	-3344.5	3347.0	3015.5
5501	1867.3	-.37139	-1288.7	3156.0	2748.5
11023	3007.8	1028.3	52.916	2954.9	2607.8
10869	26.823	-613.78	-2737.6	2764.4	2506.3
5529	2637.9	960.56	36.525	2601.4	2284.1
11025	1400.8	209.39	-865.08	2265.8	1963.1
5527	1824.6	434.33	-296.26	2120.8	1866.1

INNER SHELL - Mid-plane

NODE	S1	S2	S3	SINT	SEQV
2969	2299.0	-1383.8	-17687.	19986.	18423.
281	13915.	6604.8	-3508.7	17424.	15155.
2736	2797.1	-3565.6	-13503.	16300.	14229.
48	6929.0	1214.0	-5558.2	12487.	10827.
5421	2100.0	-1003.9	-5321.7	7421.7	6456.0
8339	4793.6	342.73	-1754.7	6548.3	5791.8
5654	2392.3	-44.932	-4013.5	6405.8	5600.2
8106	4064.6	436.01	-1870.7	5935.3	5182.5
127	4173.1	3741.2	-1350.9	5524.0	5321.2
183	4370.3	3691.7	-1133.1	5503.4	5197.4
155	4118.2	4098.2	-1132.9	5251.1	5241.1
10898	70.435	-591.92	-4823.3	4893.8	4598.5
8185	985.24	-30.734	-3253.3	4238.5	3832.9
5500	3100.2	-21.667	-1072.0	4172.1	3758.7

Table 3.AB.14 (continued)

2843	4132.2	1071.1	-36.775	4169.0	3740.2
5556	3314.3	13.863	-717.55	4031.9	3720.5
10926	27.944	-529.11	-3885.1	3913.1	3666.4
2871	3773.7	1037.8	-13.059	3786.8	3385.9
2815	3788.8	1210.9	6.9315	3781.9	3346.4
10791	3544.9	800.48	4.4278	3540.5	3217.2
8241	651.38	-6.4687	-2879.8	3531.2	3252.6
10870	14.754	-728.38	-3041.8	3056.5	2761.0
8213	-17.418	-115.51	-2786.9	2769.5	2721.8
5528	2233.3	685.85	-91.396	2324.6	2049.7
11024	2026.2	92.552	-35.572	2061.8	2000.8

INTERMEDIATE SHELLS

NODE	S1	S2	S3	SINT	SEQV
51	-585.85	-27834.	-40110.	39524.	35038.
284	17608.	-9719.5	-18605.	36213.	32689.
287	11358.	-367.95	-22134.	33492.	29436.
283	15218.	-9290.3	-11382.	26600.	25618.
50	489.95	-16918.	-23283.	23773.	21316.
54	-3750.6	-24171.	-26055.	22304.	21425.
282	11988.	413.43	-8706.7	20694.	17964.
2970	1947.3	-1545.9	-14451.	16398.	14960.
2737	2383.2	-6558.3	-12112.	14496.	12667.
2971	2346.0	-747.93	-12136.	14482.	13209.
2738	2751.5	-7317.1	-10719.	13470.	12132.
2972	2986.1	472.43	-9672.8	12659.	11608.
2739	2740.7	-5928.4	-9019.7	11760.	10560.
49	-636.64	-7508.7	-11860.	11223.	9801.1
2741	8572.3	-386.02	-2350.4	10923.	10085.
2973	4030.6	2144.8	-6269.8	10300.	9498.9
2740	4166.1	-3153.2	-5844.3	10010.	8972.8
5659	6110.9	1095.5	-3362.3	9473.2	8208.8
5426	4852.9	420.95	-4598.0	9450.9	8190.0
2974	7004.0	3664.6	-2362.2	9366.2	8221.9
5657	4227.0	1751.4	-4757.7	8984.7	8038.1
5658	4515.0	1482.8	-4381.1	8896.1	7833.3
5656	3712.9	1261.1	-5114.0	8826.9	7892.0
8111	2933.5	-637.06	-5180.5	8114.0	7043.8
5425	3096.9	-478.55	-4649.0	7745.9	6714.8
5660	5977.8	2474.9	-1669.9	7647.8	6631.0
5655	2547.9	525.28	-4504.6	7052.5	6290.0
5424	2126.7	-1350.2	-4820.7	6947.4	6016.6
5423	1811.2	-1950.6	-5094.0	6905.3	5988.1
2975	5068.6	3803.6	-1658.5	6727.1	6192.3
10796	1778.9	-804.18	-4787.9	6566.8	5730.0
8344	1396.5	-359.31	-5086.3	6482.8	5807.5
5422	1309.0	-2010.5	-5147.2	6456.2	5592.0
8110	3318.5	210.22	-3085.6	6404.1	5546.9
8340	3964.3	611.29	-2012.3	5976.6	5188.7
8343	2047.7	79.493	-3750.8	5798.5	5107.2

Table 3.AB.14 (continued)

8341	3212.3	677.42	-2582.6	5795.0	5031.7
8342	2602.4	465.17	-3037.8	5640.2	4932.1
8107	3772.5	823.57	-1671.7	5444.2	4720.2
8109	3342.7	790.82	-2072.2	5414.9	4692.0
8108	3497.0	1031.8	-1859.1	5356.1	4643.4
10795	2948.9	308.65	-1859.3	4808.2	4170.7
11029	-640.86	-1284.0	-4960.1	4319.2	4036.3
10794	3489.1	1225.1	-808.73	4297.8	3723.8
10909	137.22	-8.0643	-4092.1	4229.3	4158.6
10793	3674.9	1660.5	-518.96	4193.9	3632.9
10937	23.030	12.010	-3975.9	3999.0	3993.5
8345	630.61	-694.57	-3363.1	3993.7	3523.3
10792	3692.6	1596.3	-246.39	3939.0	3413.6
11030	-635.33	-977.65	-4504.3	3868.9	3709.6
2882	3364.6	150.43	-121.96	3486.5	3358.6
5427	1291.2	-177.18	-2177.1	3468.3	3015.4
10881	92.791	-51.272	-3215.6	3308.4	3238.8
10797	1648.6	272.61	-1606.0	3254.6	2829.7
2742	958.52	-1096.1	-2253.8	3212.3	2817.8
138	4552.2	1750.6	1394.9	3157.3	2995.4
194	4721.3	1881.1	1645.4	3075.9	2965.1
8112	1550.5	43.893	-1485.9	3036.5	2629.7
2826	2881.4	428.31	-38.482	2919.9	2716.7
11028	-353.59	-422.37	-3180.4	2826.8	2793.1
166	4581.4	1924.2	1867.9	2713.5	2685.8
2854	2544.0	539.78	-128.20	2672.2	2408.8
11027	209.51	-99.065	-2408.4	2618.0	2478.1
5567	1993.9	-11.529	-543.66	2537.5	2317.7
11026	787.51	131.23	-1689.3	2476.8	2222.5
8196	452.89	108.26	-1937.9	2390.8	2238.5
5511	1711.3	38.739	-583.87	2295.1	2055.8
11025	1400.8	209.39	-865.08	2265.8	1963.1
8224	148.95	59.358	-2110.8	2259.8	2216.3
5539	1656.6	-39.298	-466.47	2123.1	1945.0
8252	104.35	93.380	-2003.2	2107.5	2102.1

BASE PLATE

NODE	S1	S2	S3	SINT	SEQV
1	6878.1	-776.62	-6645.1	13523.	11745.
27	2071.9	20.378	-6946.2	9018.1	8187.4

ENCLOSSURE

NODE	S1	S2	S3	SINT	SEQV
288	1838.5	812.05	-24195.	26034.	25536.
55	1580.5	-685.14	-20781.	22361.	21319.
2976	7310.0	902.22	-1698.3	9008.3	8030.3
2827	5745.5	2474.0	-867.53	6613.0	5727.1

Table 3.AB.14 (continued)

2883	5120.0	2483.0	-1180.5	6300.5	5480.5
10938	10.086	-626.34	-5273.5	5283.6	4995.8
10910	-11.556	-390.74	-5100.4	5088.8	4910.2
2855	3378.5	3021.4	-1210.0	4588.5	4420.8
5661	3316.9	-271.81	-1100.0	4416.9	4066.5
10882	-46.452	-394.57	-4422.0	4375.6	4212.3
195	370.43	-895.55	-2944.5	3315.0	2897.4
167	348.32	-756.29	-2833.8	3182.1	2798.4
8253	112.76	-840.17	-2976.2	3089.0	2739.7
8197	56.402	-485.83	-2793.9	2850.3	2621.6
8225	57.183	-817.49	-2776.6	2833.7	2513.3
139	304.11	-788.46	-2493.4	2797.5	2441.9
10798	1700.0	122.51	-1071.2	2771.2	2407.6
5568	3326.0	1096.2	567.17	2758.8	2536.0
5540	3227.6	1193.8	527.97	2699.7	2436.0
8346	500.69	212.07	-1856.6	2357.2	2227.0
11031	736.78	-237.16	-1521.6	2258.4	1961.9
5512	2346.5	824.27	521.28	1825.2	1694.2
8113	1061.0	87.866	-631.42	1692.5	1471.2
5428	569.60	.23571	-1104.5	1674.1	1474.3
2743	1092.2	214.93	-560.60	1652.8	1432.3

APPENDIX 3.AC: MPC ENCLOSURE VESSEL LIFTING

3.AC MPC Enclosure Vessel Lifting

The HI-STAR 100 MPC, subsequent to fuel basket installation, but prior to lid attachment, may be lifted using the four lifting lugs welded to the interior of the MPC shell. The lifting lugs are detailed in the Design Drawings. These lugs shall not be used when the MPC contains spent nuclear fuel. Therefore, the lugs are not safety related. Nevertheless, lug stresses are computed based on the bounding lifted weight. The MPC bounding weight is 30,000 lbs.

The lift lugs are conservatively designed using the bounding MPC-24 weight with a conservative load factor of 3.0 to cover handling both in the fabrication facility and at the sites. The lifting lug for the MPC-68 has the least amount of structural metal; therefore, a bounding design calculation is performed using this lift lug. Since there are four (4) lift lugs, the lifted load, per lug, after amplifying by the handling factor 3.0, is

$$\text{LOAD} = 3 \times 30{,}000/4 = 22{,}500 \text{ lb.}$$

The lift lug dimensions are given in the Design Drawings; in the analysis to follow, we conservatively neglect the stiffening effect of the lower horizontal stiffening plate on each lug. Therefore, for analysis purposes, the lug is considered as a 3/4" plate, with 1/4" welds (both sides) which must support a shear load equal to the amplified lifted load, and a bending moment equal to the amplified lifted load × the offset of the hole from the weld section.

The following quantities are taken from the drawing.

d = lift hole diameter = 1.125"
a = moment arm for lift lug = 2.0"
s = distance of hole centerline from top of lift lug = 1.5"
h = vertical length of weld material (per weld line) = 9.25"
(note that we eliminate the chamfered location)
t_p = plate thickness = 0.75"
t_w = fillet weld thickness = 0.25"

The following material strengths are used for Alloy X at room temperature (100°F)

yield strength =	30,000 psi
membrane stress intensity =	20,000 psi
ultimate strength =	75,000 psi

The following stress calculations are performed:

1. bearing stress at the lifting hole
2. shear stress resisting "tear-out" at the hole
3. combined bending and shear in the weld group

The bearing area in the hole is

$$A_b = d\ t_p = 1.125'' \times 0.75'' = 0.84375\ in^2$$

The bearing stress in the hole is

$$\acute{o}_b = \frac{\text{LOAD}}{A_b} = \frac{22{,}500}{0.84375} = 26{,}666\ \text{psi}$$

This bearing stress is compared to 90% of the material yield strength to define a safety factor

$$Sf = \frac{0.9\ \acute{o}_y}{\acute{o}_b} = \frac{0.9 \times 30{,}000\ \text{psi}}{26{,}666\ \text{psi}} = 1.01$$

The lug material area resisting "tear-out" in shear is:

$$A_s = 2s\ t_p = 2 \times 1.5'' \times 0.75'' = 2.25\ in^2$$

The shear stress (average) on the area is

$$\hat{o} = \frac{\text{LOAD}}{A_s} = \frac{22{,}500}{2.25} = 10{,}000\ \text{psi}$$

The safety factor against "tear-out" is based on a limit stress in shear of 60% of the membrane limit

$$SF = \frac{0.6S_m}{\hat{o}} = \frac{12{,}000\ \text{psi}}{10{,}000\ \text{psi}} = 1.2$$

Finally, the weld stress to support a combination of shear force and bending moment due to the hole (eye) offset is computed in the following manner.

Conservatively considering only the weld material on the vertical leg of the lug, the area and moment of inertia of the double fillet weld group is

$$A_w = 2 \times (0.25\ in. \times 0.7071 \times 9.25\ in.) = 3.27\ in^2$$

$$I_w = 2 \times (0.25\ in. \times 0.7071 \times 9.25\ in.^3/12) = 23.31\ in^4$$

Therefore, the average direct shear stress in the weld is

$$\hat{o}_s = \frac{\text{LOAD}}{A_w} = 6{,}881\ \text{psi}$$

and the maximum value of the weld stress to support the bending moment is

$$\hat{o}_b = (a \times \text{LOAD})\ \frac{h}{2I} = 8{,}929\ \text{psi}$$

The combined weld stress intensity is

$$S = \left[\frac{\hat{o}_b^2}{4} + \hat{o}_s^2 \right]^{1/2}$$

per Shigley and Mischke, Mechanical Engineering Design, 5th Edition, McGraw Hill, 1989, p. 27.

$$S = \left[\frac{8{,}929^2}{4} + 6{,}881^2 \right]^{1/2} = 8{,}202\ \text{psi}$$

The safety factor on the weld stress is based on 30% of the ultimate strength per ASME Section III, Subsection NF, which specifically addresses fillet welds.

$$SF = \frac{0.3S_u}{S} = \frac{22{,}500\ \text{psi}}{8{,}202\text{psi}} = 2.74$$

This is very conservative since the section properties of the bottom leg of the inverted "T" section have been neglected. We have not applied a quality factor to the weld, since we have used a very conservative handling load factor in the calculation.

The above analysis demonstrates the strength of the lift lug; although the lug is not safety related, the allowable strength requirements of a Level A load condition are met with a load amplification factor of 3.0.

APPENDIX 3.AD: THERMAL EXPANSION DURING FIRE ACCIDENT

3.AD.1 Scope

In this appendix, bounding calculations are performed to demonstrate that the fuel basket-to-MPC shell gap is not closed during the postulated fire accident. This calculation is in support of the results presented in Section 3.4.4.2.2 and utilizes fire temperatures given or inferred from Table 11.2.5.

3.AD.2 Methodology

Bounding temperatures calculated during analyses for the postulated fire accident conditions are used to construct temperature distributions in the HI-STAR 100 cask. This imposed temperature distribution is used to evaluate the thermal expansion effects. The clearances in both the fuel basket-to-MPC shell radial gap and the MPC lid-to-overpack cover plate will be examined. Reference temperatures are set at 70 deg. F for all components. A comprehensive nomenclature listing is provided in Section 3.AD.7.

The analysis is based on temperature data from Chapter 11.

3.AD.3 References

[3.AD.1] Boley and Weiner, Theory of Thermal Stresses, John Wiley, 1960, Sec. 9.10, pp. 288-291.

[3.AD.2] Burgreen, Elements of Thermal Stress Analysis, Arcturus Publishers, Cherry Hill NJ, 1988.

3.AD.4 Fuel Basket-to-MPC Shell Radial Clearance

3.AD.4.1 Input Data

Based on thermal calculations detailed in Chapter 11 with results summarized in Table 11.2.5 , temperature changes are assigned to various locations as appropriate (see Figure 3.AD.1). The interference calculation is performed using the post-fire cooldown temperatures where the basket reaches its highest temperature.

The temperature change at the inside surface of the overpack, $\Delta T_{1h} := 317 - 70$

The temperature change of the outside enclosure shell, $\Delta T_{2h} := 249 - 70$

The temperature change of the MPC shell, $\Delta T_{3h} := 358 - 70$

The temperature change at the outside of the MPC basket, $\Delta T_{4h} := 419 - 70$

The temperature change of the center of the fuel basket, $\Delta T_{5h} := 755 - 70$

The geometry of the components are as follows (referring to Figure 3.AD.1)

The inner radius of the overpack, $a := 34.375 \cdot in$

The outer radius of the overpack, $b := 48 \cdot in$

The inner radius of the MPC shell, $R_{mpc} := 33.6875 \cdot in$

The initial minimum basket-to-MPC shell radial clearance, $RC_{bm} := 0.1875 \cdot in$

The outer radius of the basket, $R_b := R_{mpc} - RC_{bm}$

$$R_b = 33.5\,in$$

The initial nominal MPC-to-overpack radial clearance, $RC_{mo} := 0.09375 \cdot in$

$$RC_{mo} = 0.0938\,in$$

This initial minimum radial clearance value is conservatively based on the MPC outer diameter of 68.5625 in. (see Dwg. 1395, Sh. 4, Note 5). The coefficient of thermal expansion of the fuel basket used in subsequent calculations is based on the hottest fuel basket temperature.

The coefficient of thermal expansion for the fuel basket, $\alpha_{bh} := 9.82 \cdot 10^{-6}$

The minimum coefficient of thermal expansion is used for the shell.

The coefficient of thermal expansion for the MPC shell, $\alpha_{mh} := 9.11 \cdot 10^{-6}$

3.AD.4.2 Radial Thermal Growth of the Overpack

The diameter of the overpack will increase as a result of the temperature increase above the reference temperature of 70 deg. F. The overpack is evaluated as an equivalent uniform hollow cylinder with approximated average properties.

Based on the given inside and outside surface temperatures, the temperature solution in the cylinder is given in the form:

$$C_a + C_b \cdot \ln\left(\frac{r}{a}\right)$$

where, $C_a := \Delta T_{1h}$ $\quad C_a = 247$

$$C_b := \frac{\Delta T_{2h} - \Delta T_{1h}}{\ln\left(\frac{b}{a}\right)} \qquad C_b = -203.671$$

Next, form the integral relationship:

$$Int := \int_a^b \left[C_a + C_b \cdot \left(\ln\left(\frac{r}{a}\right)\right)\right] \cdot r\, dr$$

This integral is evaluated using the Maple symbolic math engine built into the Mathcad program as:

$$Int := \frac{1}{2} \cdot C_b \cdot \ln\left(\frac{b}{a}\right) \cdot b^2 + \frac{1}{2} \cdot C_a \cdot b^2 - \frac{1}{4} \cdot C_b \cdot b^2 + \frac{1}{4} \cdot C_b \cdot a^2 - \frac{1}{2} \cdot C_a \cdot a^2$$

$$Int = 1.174 \times 10^5\, in^2$$

The average temperature change in the overpack cylinder (T_{bo}) is therefore determined as:

$$T_{bo} := \frac{2}{(b^2 - a^2)} \cdot Int \qquad T_{bo} = 209.244$$

We estimate the average coefficient of thermal expansion for the overpack by weighting the volume of the various layers. A total of four layers are identified for this calculation. They are:

1) the overpack inner shell
2) the total of the 5 intermediate shells
3) the neutron absorber
4) the outer enclosure shell

Thermal properties are based on estimated temperatures in the component and coefficient of thermal expansion values taken from the tables in Chapter 3. The following averaging calculation involves the thicknesses (t) of the various components, and the estimated coefficients of thermal expansion at the components' mean radial positions. The results of the weighted average process yields an effective coefficient of linear thermal expansion for use in computing radial growth of a solid cylinder (the overpack).

The thicknesses of each component are defined as:

$$t_1 := 2.5 \cdot in$$

$$t_2 := 6 \cdot in$$

$$t_3 := 4.625 \cdot in$$

$$t_4 := 0.5 \cdot in$$

and the corresponding mean radii can therefore be defined as:

$$r_1 := a + .5 \cdot t_1$$

$$r_2 := r_1 + .5 \cdot t_1 + .5 \cdot t_2$$

$$r_3 := r_2 + .5 \cdot t_2 + .5 \cdot t_3$$

$$r_4 := r_3 + .5 \cdot t_3 + .5 \cdot t_4$$

To check the accuracy of these calculations, the outer radius of the overpack is calculated from r_4 and t_4, and the result is compared with the previously defined value (b).

$$b_1 := r_4 + 0.5 \cdot t_4$$

$$b_1 = 48\,in$$

$$b = 48\,in$$

We note that the the calculated value b_1 is identical to the previously defined value b. The coefficient of thermal expansion for each component, estimated based on the temperature gradient, are defined as:

$\alpha_1 := 6.814 \cdot 10^{-6}$ $\alpha_2 := 6.26 \cdot 10^{-6}$ @ 300 degrees F

$\alpha_3 := 6.46 \cdot 10^{-6}$ $\alpha_4 := 6.66 \cdot 10^{-6}$

Thus, the average coefficient of thermal expansion of the overpack is determined as:

$$\alpha_{avg} := \frac{r_1 \cdot t_1 \cdot \alpha_1 + r_2 \cdot t_2 \cdot \alpha_2 + r_3 \cdot t_3 \cdot \alpha_3 + r_4 \cdot t_4 \cdot \alpha_4}{\frac{a+b}{2} \cdot (t_1 + t_2 + t_3 + t_4)}$$

$$\alpha_{avg} = 6.439 \times 10^{-6}$$

Reference 3.AD.1 gives an expression for the radial deformation due to thermal growth. At the inner radius of the overpack (r = a), the radial growth is determined as:

$$\Delta R_{ah} := \alpha_{avg} \cdot a \cdot T_{bo}$$

$$\Delta R_{ah} = 0.046 \text{ in}$$

3.AD.4.3 Radial Thermal Growth of the MPC Shell

Using the same expression for radial growth used above (from Reference 3.AD.1), the radial growth of the MPC shell is determined as:

$$\Delta R_{mh} := \alpha_{mh} \cdot R_{mpc} \cdot \Delta T_{3h} \qquad \Delta R_{mh} = 0.088 \text{ in}$$

This value is conservatively based on the inner radius of the MPC shell. This assumption will lessen the expansion of the MPC shell, thereby minimizing the available fuel basket-to-MPC shell gap. If the initial MPC shell-to-overpack clearance plus the overpack radial growth minus the MPC shell radial thermal growth is negative, then the MPC shell will contact and conform to the inner surface of the overpack.

$$RC_{moh} := RC_{mo} + \Delta R_{ah} - \Delta R_{mh} \qquad RC_{moh} = 0.052 \text{ in}$$

The result is positive, indicating no contact.

3.AD.4.4 Radial Thermal Growth of the Fuel Basket

Using formulas given in [3.AD.2] for a solid body of revolution, and assuming a parabolic temperature distribution in the radial direction with the center and outer temperatures given previously, the following relationships can be developed for free thermal growth.

Define $\Delta T_{bas} := \Delta T_{5h} - \Delta T_{4h}$

$$\Delta T_{bas} = 336$$

Then the mean temperature change can be defined as $T_{bb} := \frac{2}{R_b^2} \cdot \int_0^{R_b} \left(\Delta T_{5h} - \Delta T_{bas} \cdot \frac{r^2}{R_b^2} \right) \cdot r \, dr$

Using the Maple symbolic engine again, the closed form solution of the integral is:

$$T_{bb} := \frac{2}{R_b^{\,2}} \cdot \left(\frac{-1}{4} \cdot \Delta T_{bas} \cdot R_b^{\,2} + \frac{1}{2} \cdot \Delta T_{5h} \cdot R_b^{\,2} \right) \qquad T_{bb} = 517$$

and the corresponding radial growth at the periphery (ΔR_{bh}) is therefore determined as:

$$\Delta R_{bh} := \alpha_{bh} \cdot R_b \cdot T_{bb} \qquad \Delta R_{bh} = 0.17\,\text{in}$$

Note that the coefficient of thermal expansion for the hottest basket temperature has been used, and the results are therefore conservative.

3.AD.4.5 Final Fuel Basket-to-MPC Shell Radial Clearance

The initial minimum fuel basket-to-MPC shell gap plus the MPC shell radial thermal growth minus the maximum fuel basket radial growth of the fuel basket must be greater than zero.

$$RG_{bmh} := RC_{bm} + \Delta R_{mh} - \Delta R_{bh} \qquad RG_{bmh} = 0.106\,\text{in}$$

This value is greater than zero, and the no contact condition for the fuel basket is therefore met.

3.AD.5 MPC Lid -to-Overpack Closure Plate Axial Clearance

3.AD.5.1 Input Data

The same temperatures, previously input, are assumed for this calculation.

The following geometric dimensions are needed to determine the axial thermal growth of the cask components. The axial length of the overpack is defined as the distance from the top of the overpack baseplate to the bottom of the overpack closure plate.

The axial length of the MPC, $L_{mpc} := 190.5 \cdot \text{in}$

The axial length of the basket, $L_{bas} := 176.5 \cdot \text{in}$

The axial length of the overpack, $L_{ovp} := 191.125 \cdot \text{in}$

The initial minimum fuel basket-to-MPC lid axial clearance, $AC_{bm} := 2 \cdot in$

The initial minimum MPC-to-overpack nominal axial clearance, $AC_{mo} := L_{ovp} - L_{mpc}$

$$AC_{mo} = 0.625\ in$$

3.AD.5.2 Axial Growth Based on Specified Temperatures

The axial thermal growth of the overpack, based on the temperature distribution specified for the cask, can be calculated using the previously calculated average coefficient of thermal expansion and overpack cylinder average temperature as:

$$\Delta L_{ovph} := L_{ovp} \cdot \alpha_{avg} \cdot T_{bo}$$

$$\Delta L_{ovph} = 0.258\ in$$

The axial growth of the MPC shell is determined as:

$$\Delta L_{mpch} := \alpha_{mh} \cdot L_{mpc} \cdot \Delta T_{3h}$$

$$\Delta L_{mpch} = 0.5\ in$$

And the axial growth of the fuel basket is determined from [3.AD.2] as:

$$\Delta L_{bh} := \Delta R_{bh} \cdot \frac{L_{bas}}{R_b} \qquad \Delta L_{bh} = 0.896\ in$$

3.AD.5.3 Final MPC Lid-to-Overpack Closure Plate Axial Clearance

In order to prevent the overpack cover plate bolts from experiencing extreme axial stresses, the MPC lid must not contact the closure plate bottom. Therefore, the initial minimim axial clearance plus the overpack axial growth minus the MPC axial growth must be greater than zero.

$$\Delta L_{mpc} := (\Delta L_{mpch}) \qquad \Delta L_{mpc} = 0.5\ in$$

$$\Delta L_{ovp} := \Delta L_{ovph} \qquad \Delta L_{ovp} = 0.258\ in$$

$$AG_{mo} := AC_{mo} + \Delta L_{ovp} - \Delta L_{mpc} \qquad AG_{mo} = 0.383\ in$$

This value is greater than zero, and the no contact condition for the closure plate is therefore met.

3.AD.5.4 Final Fuel Basket-to-MPC Lid Axial Clearance

The final axial growth of the fuel basket is the average of the hot (top of cask) and cold (bottom of cask) axial thermal growth values. In order to ensure that the fuel assemblies will be removable, by normal means, from the fuel basket, the fuel basket must not be allowed to contact the underside of the MPC lid. Therefore, the initial minimim axial clearance plus the MPC axial growth minus the fuel basket axial growth must be greater than zero.

$$\Delta L_{bas} := (\Delta L_{bh}) \qquad \Delta L_{bas} = 0.896\,\text{in}$$

$$AG_{bm} := (AC_{bm} + \Delta L_{mpc}) - \Delta L_{bas}$$

$$AG_{bm} = 1.604\,\text{in}$$

This value is greater than zero, and the no-contact condition for the fuel basket is met.

3.AD.6 Conclusions

The results of calculations performed in this appendix demonstrate that a postulated fire accident does not result in restraint of free-end expansion in the fuel basket. Therefore, large stresses will not occur as a result of this mechanism and the retrievability of the fuel assemblies is not compromised.

3.AD.7 Nomenclature

a is the inner radius of the overpack
AC_{bm} is the initial fuel basket-to-MPC axial clearance.
AC_{mo} is the initial MPC-to-overpack axial clearance.
AG_{bm} is the average final fuel basket-to-MPC shell gap.
AG_{mo} is the average final MPC shell-to-overpack axial gap.
b is the outer radius of the overpack.
L_{bas} is the axial length of the fuel basket.
L_{mpc} is the axial length of the MPC.
L_{ovp} is the axial length of the overpack.
r_1 (r_2,r_3,r_4) is mean radius of the overpack inner shell (intermed. shells, neutron absorber, outer shell).
R_b is the outer radius of the fuel basket.

R_{mpc} is the mean radius of the MPC shell.

RC_{bm} is the initial fuel basket-to-MPC radial clearance.

RC_{mo} is the initial MPC shell-to-overpack radial clearance.

RC_{moh} is the final MPC shell-to-overpack radial gap for the hot components.

RG_{bmh} is the final fuel basket-to-MPC shell radial gap for the hot components.

t_1 (t_2,t_3,t_4) is the thickness of the overpack inner shell (intermed. shells, neutron absorber, outer shell).

T_{bb} is the average temperature of the fuel basket.

T_{bo} is the average temperature of the overpack cylinder.

α_1 (α_2,α_3,α_4) is the coefficient of thermal expansion of the overpack inner shell (intermediate shells, neutron absorber, outer shell).

α_{avg} is the average coefficient of thermal expansion of the overpack.

α_{bh} is the coefficient of thermal expansion of the fuel basket for the hot components.

α_{mh} is the coefficient of thermal expansion of the MPC shell for the hot components.

ΔL_{bas} is the total axial thermal growth of the fuel basket.

ΔL_{bh} is the axial growth of the fuel basket for the hot components.

ΔL_{mpc} is the total axial thermal growth of the MPC shell.

ΔL_{mpch} the the axial growth of the MPC for the hot components.

ΔL_{ovp} is the total axial thermal growth of the overpack.

ΔL_{ovph} is the axial growth of the overpack for the hot components.

ΔR_{ah} is the radial growth of the overpack inner radius for the hot components.

ΔR_{bh} is the radial growth of the fuel basket for the hot components.

ΔR_{mh} is the radial growth of the MPC shell for the hot components.

ΔR_{mpch} is the radial growth of the MPC shell for the hot components.

ΔT_{1h} is the temperature change at the overpack inside surface for hot components.

ΔT_{2h} is the temperature change at the outside enclosure shell surface for hot components.

ΔT_{3h} is the temperature change at the MPC shell mean radius for hot components.

ΔT_{4h} is the temperature change at the MPC basket periphery for hot components.

ΔT_{5h} is the temperature change at the MPC basket centerline for hot components.

ΔT_{bas} is the fuel basket centerline-to-periphery temperature gradient.

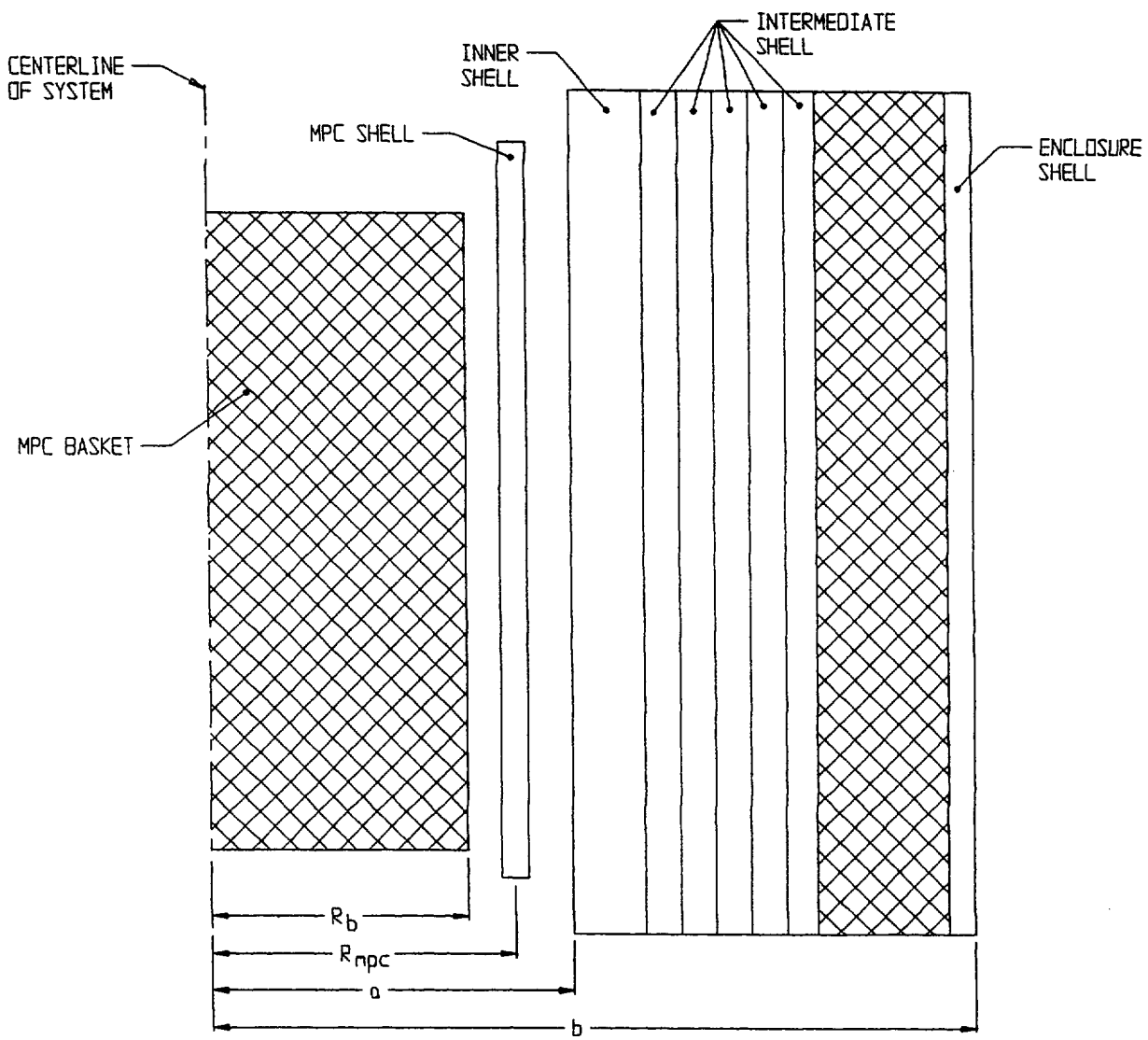


FIGURE 3.AD.1; GEOMETRY OF SECTION FOR THERMAL EXPANSION CALCULATIONS

APPENDIX 3.AE - STRESS ANALYSIS OF OVERPACK CLOSURE BOLTS DURING COLD CONDITION OF STORAGE

3.AE.1 Introduction

This appendix contains a stress analysis of the HI-STAR 100 Overpack closure bolts under the temperature conditions which exist during the cold condition of storage. The purpose of the analysis is to demonstrate that the closure bolts do not "unload" during this condition.

The complex interaction of forces and moments in bolted joints of shipping casks has been investigated in Reference 3.AE.1, resulting in a comprehensive method of closure bolt stress analysis. That method is employed here. For each set of formulas or calculations used, reference to the appropriate table in [3.AE.1] is given. Where necessary, the formulas are modified to reflect the particulars of the HI-STAR system. For example, since the HI-STAR 100 closure lid has a raised face outside of the bolt circle, no prying forces can develop from loads directed outward (such as internal pressure).

3.AE.2 References

[3.AE.1] Mok, Fischer, Hsu, *Stress Analysis of Closure Bolts for Shipping Casks* (NUREG/CR-6007 UCRL-ID-110637), Lawrence Livermore National Laboratory/Kaiser Engineering, 1993.

[3.AE.2] Horton, H. (Ed.), *Machinery's Handbook*, 15th Ed., The Industrial Press, 1957.

[3.AE.3] FEL-PRO Technical Bulletin, N-5000 Nickel Based - Nuclear Grade Anti-Seize Lubricant, 8/97.

[3.AE.4] K.P. Singh and A.I. Soler, *Mechanical Design of Heat Exchangers and Pressure Vessel Components*, First Edition, Arcturus Publishers, Inc., 1984.

3.AE.3 Assumptions

The assumptions used in the analysis are given as a part of Reference 3.AE.1. The assumptions in that reference are considered valid for this analysis except where noted below.

1. The temperature conditions of the bolt circle area for the extreme cold ambient condition of storage are used here.

2. Bolt forces due to prying action can only develop from inward directed loads because of the raised face on the closure lid which precludes metal-to-metal contact outside of the bolt circle.

3. The forces and moments in the bolts due to the gasket load are included in the preload imposed.

4. The forces and moments in the bolts due to vibration loads are small relative to the forces and moments generated by all other loads, and are considered negligible.

5. A recess is provided in the overpack closure plate that causes the MPC to contact the bottom face of the overpack closure plate over an annular region at the outer periphery of the closure plate. The formulas for plates under uniform pressure used in the reference are replaced here by formulas for plates loaded uniformly over an annular region at the outer periphery.

6. As the HI-STAR 100 Overpack includes a protected lid, shear bolt forces are defined to be zero.

7. The actual weight of the overpack closure plate is replaced by a somewhat larger weight in this analysis. This is conservative because loads on the bolts are increased with a heavier closure plate.

8. No prying action can occur from outward directed loads since the closure lid has a raised face outside of the bolt circle which eliminates the potential for prying action from positive bending moments.

3.AE.4 Terminology

Some terminology in Reference 3.AE.1 differs from Holtec's terminology. In this analysis, the 'cask wall' is Holtec's 'main flange'. The 'cask' is Holtec's 'Overpack'. 'Closure lid' and 'closure plate' are used interchangeably.

Wherever possible, parameter names are consistent with Reference 3.AE.1.

3.AE.5 Composition

This appendix was created with the Mathcad (version 7.0) software package. Mathcad uses the symbol ':=' as an assignment operator, and the equals symbol '=' retrieves values for constants or variables. Inequalities are also employed. Mathcad returns 0 for a false inequality, and 1 for a true inequality.

Units are also carried with Mathcad variables.

3.AE.6 Analysis Procedure

The analysis procedure is taken from Section 6.4 of Reference 3.AE.1. The following general steps are taken:

1. Identification of individual loadings.

2. Identification and evaluation of load parameters.

3. Determination of the forces and moments acting on the bolts due to each of individual loading.

4. Determination of the forces and moments acting on the bolts for the combined load case under analysis.

5. Evaluation of the stresses in the bolts for the combined load case.

6. Comparison with acceptance criteria.

3.AE.7 Identification of Individual Loadings

The individual loadings acting on the cask closure are the following:

a. Bolt preload. Bolt preload is present in all loadings and includes any gasket sealing loads.

b. Pressure. Design internal pressure is applied to the overpack wall and lid for all load combinations.

c. Temperature. Temperatures assumed equal to the cold ambient environment to provide a bounding result.

3.AE.8 Geometry Parameters

The parameters which define the HI-STAR 100 closure geometry are given in this section.

The nominal closure bolt diameter, $Db := 1.625 \cdot in$

The total number of closure bolts, $Nb := 54$

The stress area of a closure bolt (from [3.AE.4], p. 100), $A_b := 1.680 \cdot in^2$

The closure lid diameter at the bolt circle, $Dlb := 74.75 \cdot in$

Closure lid diameter at the location of the gasket load reaction, $Dlg := 71.565 \cdot in$

The HI-STAR overpack gasket system includes two concentric seals. The value for Dlg above locates the gasket load reaction between the two seal diameters.

The thickness of the cask wall, $tc := 6.25 \cdot in$

The minimum thickness of the closure lid, $tl := \left(6 - \frac{1}{16}\right) \cdot in$

This value for the closure lid thickness accounts for the thickness reduction (recess) in the bottom face of the lid.

The effective thickness of the closure lid flange, $tlf := 4.25 \cdot in$

The closure plate diameter at the inner edge, $Dli := 69.75 \cdot in$

The closure plate diameter at the inner edge is overpack inner diameter plus twice the width of the cut-out in the top flange which accommodates the inflatable annulus seal.

The closure plate diameter at the outer edge, $Dlo := 77.375 \cdot in$

The bolt length, $Lb := 4.25 \cdot in$

The bolt length is the length between the top and bottom surfaces of the closure plate, at the bolt circle location.

The number of bolt threads per inch, $n := 8 \cdot \frac{1}{in}$

The bolt thread pitch, $p := \frac{1}{n}$

The upper bound MPC weight (Table 3.2.4), $Wc := 90000 \cdot lb$

The bounding weight used for closure plate,(Table 3.2.4) $Wl := 8000 \cdot lb$

The overpack closure lid recess inner diameter, $d_l := 52.75 \cdot in$

3.AE.9 Material Properties

The overpack closure bolts are SB-637-N07718 steel, and the closure plate and top flange are SA-350-LF3 steel. The following material properties are used in the analysis based on a cold temperature of -40 degrees F. Extrapolation of table data is carried out where necessary.

The Young's modulus of the cask wall material, $Ec := 28170000 \cdot psi$

The Young's modulus of the closure plate material, $El := 28170000 \cdot psi$

The Poisson's ratio of the closure plate material, $NUl := 0.3$

The closure bolt material coefficient of thermal expansion, $ab := 6.60 \cdot 10^{-6} \cdot R^{-1}$

The cask wall material coefficient of thermal expansion, $ac := 6.23 \cdot 10^{-6} \cdot R^{-1}$

The closure plate material coefficient of thermal expansion, $al := 6.23 \cdot 10^{-6} \cdot R^{-1}$

The zero points of the Fahrenheit and Rankine scales differ by a constant (1 °F = 1 R), therefore the above numbers are accurate with either unit.

Young's modulus of the closure bolt material, $Eb := 29580000 \cdot psi$

Young's modulus of top flange material, $Elf := 28170000 \cdot psi$

3.AE.10 Bolt Stress Calculations

3.AE.10.1 Identification and Evaluation of Load Parameters, Combined Load Case 1

The load parameters for each individual loading are defined as follows.

Loading parameters for preload:

The nominal value of the nut factor is 0.15 from Reference 3.AE.3.
The minimum nut factor, based on a tolerance of +/- 5%, is $K := 0.1425$

The maximum bolt preload torque per bolt (Table 7.1.2), $Q := 2895 \cdot ft \cdot lbf + 90 \cdot ft \cdot lbf$

Loading parameters for pressure load:

The pressure inside the cask wall, $Pci := 100 \cdot psi$

The pressure outside the cask wall, $Pco := 14.7 \cdot psi$

The pressure inside the closure lid, $Pli := 100 \cdot psi$

The pressure outside the closure lid, $Plo := 14.7 \cdot psi$

Loading parameters for the cold condition temperature load: (bolt installation at 70 deg. F)

The maximum temperature change of the main flange, $\tau_{fe} := (-40 - 70) \cdot R$

The maximum temperature change of the closure lid inner surface, $\tau_{li} := (-40 - 70) \cdot R$

The maximum temperature change of the closure lid outer surface, $\tau_{lo} := (-40 - 70) \cdot R$

The maximum temperature change of the closure lid, $Tl := \frac{Tli + Tlo}{2}$ $\quad Tl = -110\,R$

The maximum temperature change of the closure bolts, $Tb := (-40 - 70)\cdot R$ $\quad Tb = -110\,R$

As these parameters are all temperature differences, the Fahrenheit-to-Rankine conversion factor of 460° can be omitted.

3.AE.10.2 Determination of Bolt Forces and Moments for the Individual Loadings

Array parameters are used to account for the multiple individual loadings within the combined load case. There are three individual loadings, so let i include the range from 1 to 3 as follows:

Let $i := 1..3$

The forces and moments generated by each individual load case are represented by the following symbols:

The non-prying tensile bolt force per bolt = Fa_i

The shear bolt force per bolt = Fs_i

The fixed-edge closure lid force = Ff_i

Fixed-edge closure lid moment = Mf_i

The subscript i is used only to keep track of each individual load case within a load combination.

The first individual loading in this load combination is the residual load after the preload operation. The forces and moments generated by this load are defined as [3.AE.1, Table 4.1]:

The non-prying tensile bolt force per bolt, $Fa_1 := \frac{Q}{K\cdot Db}$

The maximum residual tensile bolt force (preload) per bolt, $Far_1 := Fa_1$

The maximum residual torsional bolt moment per bolt, $Mtr := 0.5\cdot Q$

The preload stress in each bolt (based on stress area), $Preload := \frac{Fa_1}{A_b}$

Substituting the appropriate input data, the values of these parameters are determined as:

$Fa_1 = 154688\,lbf$

$Far_1 = 154688\,lbf$

$Mtr = 17910\,in \cdot lbf$

$Preload = 92076\,psi$

The second individual loading in this load combination is the pressure load. The forces and moments generated by this load are defined as follows [3.AE.1, Table 4.3]:

The non-prying tensile force per bolt, $Fa_2 := \frac{\pi \cdot Dlg^2 \cdot (Pli - Plo)}{4 \cdot Nb}$

The shear bolt force per bolt, $Fs_2 := \frac{\pi \cdot El \cdot tl \cdot (Pci - Pco) \cdot Dlb^2}{2 \cdot Nb \cdot Ec \cdot tc \cdot (1 - NUl)}$

The fixed-edge closure lid force, $Ff_2 := \frac{Dlb \cdot (Pli - Plo)}{4}$

The fixed-edge closure lid moment, $Mf_2 := \frac{(Pli - Plo) \cdot Dlb^2}{32}$

Substituting the appropriate input data, the values of these parameters are determined as:

$Fa_2 = 6354\,lbf$

$Fs_2 = 18816\,lbf$

$Ff_2 = 1594\,\frac{lbf}{in}$

$Mf_2 = 14894\,lbf$

The third individual loading in this load combination is the temperature load. The forces and moments generated by this load are defined as [3.AE.1, Table 4.4]:

The non-prying tensile bolt force per bolt, $Fa_3 := 0.25 \cdot \pi \cdot Db^2 \cdot Eb \cdot (al \cdot Tl - ab \cdot Tb)$

The shear bolt force per bolt, $Fs_3 := \frac{\pi \cdot El \cdot tl \cdot Dlb \cdot (al \cdot Tl - ac \cdot Tc)}{Nb \cdot (1 - NUl)}$

The fixed-edge closure lid force, $Ff_3 := 0 \cdot \frac{lbf}{in}$

The fixed-edge closure lid moment, $Mf_3 := \frac{El \cdot al \cdot tl^2 \cdot (Tlo - Tli)}{12 \cdot (1 - NUl)}$

Substituting the appropriate input data, the values of these parameters are determined as:

$$Fa_3 = 2497\,lbf$$

$$Fs_3 = 0\,lbf$$

$$Ff_3 = 0\,\frac{lbf}{in}$$

$$Mf_3 = 0\,lbf$$

3.AE.10.3 Determination of Combined Bolt Forces and Combined Bolt Moments

The calculations in the following subsections are performed in accordance with Tables 4.9, 2.1 and 2.2 of Reference 3.AE.1.

3.AE.10.3.1 Tensile Bolt Force

First, combine the non-prying tensile bolt forces (Fa_i):

The total preload and temperature load, $Fa_pt := Fa_1 + Fa_3$

$$Fa_pt = 157185\,lbf$$

The sum of the remaining forces (pressure), $Fa_al := Fa_2$

$$Fa_al = 6354\,lbf$$

The combined non-prying tensile bolt force, $Fa_c := Fa_al \cdot (Fa_al > Fa_pt) + Fa_pt \cdot (Fa_pt > Fa_al)$

$$Fa_c = 157185\,lbf$$

If the combined non-prying tensile bolt force (Fa_c) is negative, set it equal to zero. Per Appendix 3 of Reference [3.AE.1], inward directed loads are not reacted by the bolts, but the developed formulations are still valid if the spurious bolt forces < 0.0 are removed from the calculation.

$$Fa_c := Fa_c \cdot (Fa_c > 0 \cdot lbf)$$

$$Fa_c = 157185\,lbf$$

Next, combine the prying tensile bolt forces and moments (these bolt forces develop due to Ff_i and Mf_i):

The sum of the fixed edge forces, $Ff_c := Ff_1 + Ff_2 + Ff_3$

$$Ff_c = 1594 \frac{lbf}{in}$$

If the combined fixed-edged force (Ff_c) is negative, set it equal to zero.

$$Ff_c := Ff_c \cdot \left(Ff_c > 0 \cdot \frac{lbf}{in}\right) + 0 \cdot \frac{lbf}{in} \cdot \left(Ff_c < 0 \cdot \frac{lbf}{in}\right)$$

$$Ff_c = 1.594 \times 10^3 \frac{lbf}{in}$$

The sum of fixed-edge moments, $Mf_c := Mf_1 + Mf_2 + Mf_3$

$$Mf_c = 14894 \frac{lbf \cdot in}{in}$$

Define the appropriate prying force moment arm depending on the direction of Mf_c. For inward directed loading, prying moments are developed by the lid rotating about the flange inner edge; for outward directed loading, prying moments are developed by the lid rotating about its outer edge. Thus, the moment arms are different in the two cases.

$$Arm := (Dlo - Dlb) \cdot (Mf_c > 0 \cdot lbf) + (Dlb - Dli) \cdot (Mf_c < 0 \cdot lbf)$$

$$Arm = 2.625\, in$$

The prying tensile bolt force for the combined loading can therefore be determined as:

The constants C_1 and C_2 are: $C_1 := 1$

$$C_2 := \left[\frac{8}{3 \cdot (Arm)^2}\right] \cdot \left[\frac{El \cdot tl^3}{1 - NUl} + \frac{(Dlo - Dli) \cdot Elf \cdot tlf^3}{Dlb}\right] \cdot \left(\frac{Lb}{Nb \cdot Db^2 \cdot Eb}\right)$$

$$C_2 = 3.371$$

The bolt preload per unit length of bolt circle, $P := Fa_pt \cdot \left(\frac{Nb}{\pi \cdot Dlb}\right)$

$$P = 36145 \frac{lbf}{in}$$

The parameter P is the pressure/temperature force which is multiplied to determine preload per unit length of bolt circle (see Tables 2.1 and 4.9 in Section II.3 of Reference 3.AE.1).

The non-prying tensile bolt force, $B := Ff_c \cdot (Ff_c > P) + P \cdot (P > Ff_c)$

$$B = 36145 \frac{lbf}{in}$$

The additional tensile bolt force per bolt caused by prying action of the closure lid, $Fap := \left(\frac{\pi \cdot Dlb}{Nb}\right) \cdot \left[\frac{\frac{2 \cdot Mf_c}{Arm} - C_1 \cdot (B - Ff_c) - C_2 \cdot (B - P)}{C_1 + C_2}\right]$

$$Fap = -23086\ lbf$$

The prying force must be tensile. If the result is negative, set it equal to zero.

$$Fab_c := Fap \cdot (Fap > 0 \cdot lbf) + 0 \cdot lbf \cdot (Fap < 0 \cdot lbf)$$

$$Fab_c = 0\ lbf$$

The total tensile bolt force for stress analysis, $FA := Fa_c + Fab_c$

$$FA = 157185\ lbf$$

3.AE.10.3.2 Bolt Shear Force

The sum of the shear forces, $Fs_c := Fs_1 + Fs_2 + Fs_3$

$$Fs_c = 18816\ lbf$$

$Fs := 0 \cdot lbf$ (protected cask lid)

3.AE.10.3.3 Bolt Bending Moment

The calculations in this section are performed in accordance with Table 2.2 of Reference 3.AE.1. The following relations are defined:

$$Kb := \left(\frac{Nb}{Lb}\right) \cdot \left(\frac{Eb}{Dlb}\right) \cdot \left(\frac{Db^4}{64}\right)$$

$$Kl := \frac{El \cdot tl^3}{3 \cdot \left[(1 - NUl^2) + (1 - NUl)^2 \cdot \left(\frac{Dlb}{Dlo}\right)^2\right] \cdot Dlb}$$

$$Mbb_c := \left(\frac{\pi \cdot Dlb}{Nb}\right) \cdot \left(\frac{Kb}{Kb + Kl}\right) \cdot Mf_c$$

$$Mbb := Mbb_c$$

where Mbb is the bolt bending moment. Substituting the appropriate values, these parameters are calculated as:

$$Kb = 547804\ lbf$$

$$Kl = 19230741\ lbf$$

$$Mbb_c = 1.794 \times 10^3\ lbf \cdot in$$

$$Mbb = 1.794 \times 10^3\ lbf \cdot in$$

3.AE.10.3.4 Bolt Torsional Moment

The torsional bolt moment is generated only by the preloading operation, therefore no combination is necessary.

3.AE.10.4 Evaluation of Bolt Stresses

Per Table 5.1 of Reference 3.AE.1, the average and maximum bolt stresses for comparison with the acceptance criteria are obtained. Inch-series threads are used and the maximum shear and bending are in the bolt thread.

The bolt diameter for tensile stress calculation [3.AE.1, Table 5.1] $Dba := Db - 0.9743 \cdot p$

$$Dba = 1.503\ in$$

The bolt diameter for shear stress calculation, $Dbs := Dba$

$$Dbs = 1.503\ in$$

The bolt diameter for bending stress calculation, $Dbb := Dba$

$$Dbb = 1.503\ in$$

The bolt diameter for torsional stress calculation, $Dbt := Dba$

$$Dbt = 1.503\ in$$

The average tensile stress caused by the tensile bolt force FA, $Sba := 1.2732 \cdot \frac{FA}{Dba^2}$

$$Sba = 88566\ psi$$

The average shear stress caused by the shear bolt force Fs, $Sbs := 1.2732 \cdot \frac{Fs}{Dbs^2}$

$$Sbs = 0\ psi$$

The maximum bending stress caused by the bending bolt moment Mb, $Sbb := 10.186 \cdot \frac{Mbb}{Dbb^3}$

$$Sbb = 5380\,psi$$

The maximum shear stress caused by the torsional bolt moment Mt, $Sbt := 5.093 \cdot \frac{Mtr}{Dbt^3}$

$$Sbt = 26854\,psi$$

The maximum stress intensity caused by the combined loading of tension, shear, bending and torsion can therefore be determined as:

$$Sbi := \left[(Sba + Sbb)^2 + 4 \cdot (Sbs + Sbt)^2\right]^{0.5}$$

$$Sbi = 108214\,psi$$

3.AE.10.5 Comparison with Acceptance Criteria

The final bolt stress is less than the preload stress $Preload = 9.208 \times 10^4\,psi$

$$\frac{Sba}{Preload} = 0.962$$

The average tensile stress under the imposed condition is close to the corresponding stress under the preload condition. There is a 3.8% decrease in average bolt tensile stress. Therefore, the sealing will be maintained.

3.AE.11 Conclusion

Using the standard method presented in Reference 3.AE.1, the above analysis demonstrates that the tensile stress in the closure bolts remains positive under the imposed preload, pressure and temperature conditions under the extreme cold storage environment where the metal in the vicinity of the bolts is -40 degrees. The closure bolts for the HI-STAR 100 Overpack will therefore not unload.

APPENDIX 3.AF - STRESS ANALYSIS OF OVERPACK CLOSURE BOLTS FOR THE STORAGE FIRE ACCIDENT

3.AF.1 Introduction

This appendix contains a stress analysis of the HI-STAR 100 Overpack closure bolts under the temperature conditions which exist during the storage fire accident. The purpose of the analysis is to demonstrate that the closure bolts do not "unload" during this condition.

The complex interaction of forces and moments in bolted joints of shipping casks has been investigated in Reference 3.AF.1, resulting in a comprehensive method of closure bolt stress analysis. That method is employed here. For each set of formulas or calculations used, reference to the appropriate table in [3.AF.1] is given. Where necessary, the formulas are modified to reflect the particulars of the HI-STAR system. For example, since the HI-STAR 100 closure lid has a raised face outside of the bolt circle, no prying forces can develop from loads directed outward (such as internal pressure).

3.AF.2 References

[3.AF.1] Mok, Fischer, Hsu, *Stress Analysis of Closure Bolts for Shipping Casks* (NUREG/CR-6007 UCRL-ID-110637), Lawrence Livermore National Laboratory/Kaiser Engineering, 1993.

[3.AF.2] Horton, H. (Ed.), *Machinery's Handbook*, 15th Ed., The Industrial Press, 1957.

[3.AF.3] FEL-PRO Technical Bulletin, N-5000 Nickel Based - Nuclear Grade Anti-Seize Lubricant, 8/97.

[3.AF.4] K.P. Singh and A.I. Soler, *Mechanical Design of Heat Exchangers and Pressure Vessel Components*, First Edition, Arcturus Publishers, Inc., 1984.

3.AF.3 Assumptions

The assumptions used in the analysis are given as a part of Reference 3.AF.1. The assumptions in that reference are considered valid for this analysis except where noted below.

1. The temperature conditions of the bolt circle area for the storage fire accident are used here.

2. Bolt forces due to prying action can only develop from inward directed loads because of the raised face on the closure lid which precludes metal-to-metal contact outside of the bolt circle.

3. The forces and moments in the bolts due to the gasket load are included in the preload imposed.

4. The forces and moments in the bolts due to vibration loads are small relative to the forces and moments generated by all other loads, and are considered negligible.

5. A recess is provided in the overpack closure plate that causes the MPC to contact the bottom face of the overpack closure plate over an annular region at the outer periphery of the closure plate. The formulas for plates under uniform pressure used in the reference are replaced here by formulas for plates loaded uniformly over an annular region at the outer periphery.

6. As the HI-STAR 100 Overpack includes a protected lid, shear bolt forces are defined to be zero.

7. The actual weight of the overpack closure plate is replaced by a somewhat larger weight in this analysis. This is conservative because loads on the bolts are increased with a heavier closure plate.

8. No prying action can occur from outward directed loads since the closure lid has a raised face outside of the bolt circle which eliminates the potential for prying action from positive bending moments.

3.AF.4 Terminology

Some terminology in Reference 3.AF.1 differs from Holtec's terminology. In this analysis, the 'cask wall' is Holtec's 'main flange'. The 'cask' is Holtec's 'Overpack'. 'Closure lid' and 'closure plate' are used interchangeably.

Wherever possible, parameter names are consistent with Reference 3.AF.1.

3.AF.5 Composition

This appendix was created with the Mathcad (version 7.0) software package. Mathcad uses the symbol ':=' as an assignment operator, and the equals symbol '=' retrieves values for constants or variables. Inequalities are also employed. Mathcad returns 0 for a false inequality, and 1 for a true inequality.

Units are also carried with Mathcad variables.

3.AF.6 Analysis Procedure

The analysis procedure is taken from Section 6.4 of Reference 3.AF.1. The following general steps are taken:

1. Identification of individual loadings.

2. Identification and evaluation of load parameters.

3. Determination of the forces and moments acting on the bolts due to each of individual loading.

4. Determination of the forces and moments acting on the bolts for the combined load case under analysis.

5. Evaluation of the stresses in the bolts for the combined load case.

6. Comparison with acceptance criteria.

3.AF.7 Identification of Individual Loadings

The individual loadings acting on the cask closure are the following:

a. Bolt preload. Bolt preload is present in all loadings and includes any gasket sealing loads.

b. Pressure. Design internal pressure is applied to the overpack wall and lid for all load combinations.

c. Temperature. Temperatures are taken from Table 11.2.2.

3.AF.8 Geometry Parameters

The parameters which define the HI-STAR 100 closure geometry are given in this section.

The nominal closure bolt diameter, $Db := 1.625 \cdot in$

The total number of closure bolts, $Nb := 54$

The stress area of a closure bolt (from [3.AF.4], p. 100), $A_b := 1.680 \cdot in^2$

The closure lid diameter at the bolt circle, $Dlb := 74.75 \cdot in$

Closure lid diameter at the location of the gasket load reaction, $Dlg := 71.565 \cdot in$

The HI-STAR overpack gasket system includes two concentric seals. The value for Dlg above locates the gasket load reaction between the two seal diameters.

The thickness of the cask wall, $tc := 6.25 \cdot in$

The minimum thickness of the closure lid, $tl := \left(6 - \frac{1}{16}\right) \cdot in$

This value for the closure lid thickness accounts for the thickness reduction (recess) in the bottom face of the lid.

The effective thickness of the closure lid flange, $tlf := 4.25 \cdot in$

The closure plate diameter at the inner edge, $Dli := 69.75 \cdot in$

The closure plate diameter at the inner edge is overpack inner diameter plus twice the width of the cut-out in the top flange which accommodates the inflatable annulus seal.

The closure plate diameter at the outer edge, $Dlo := 77.375 \cdot in$

The bolt length, $Lb := 4.25 \cdot in$

The bolt length is the length between the top and bottom surfaces of the closure plate, at the bolt circle location.

The number of bolt threads per inch, $n := 8 \cdot \frac{1}{in}$

The bolt thread pitch, $p := \frac{1}{n}$

The upper bound MPC weight (Table 3.2.4), $Wc := 90000 \cdot lb$

The bounding weight used for closure plate,(Table 3.2.4) $Wl := 8000 \cdot lb$

The overpack closure lid recess inner diameter, $d_l := 52.75 \cdot in$

3.AF.9 Material Properties

The overpack closure bolts are SB-637-N07718 steel, and the closure plate and top flange are SA-350-LF3 steel. The following material properties are used in the analysis based on a storage fire temperature of 524 degrees F (near the bolts). Interpolation of of table data from the appropriate ASME Code table (between 500 and 600 deg. F) in Part D of Section II of the Code is carried out where necessary to obtain appropriate Young's Modulus and Coefficient of Thermal Expansion.

The Young's modulus of the cask wall material, $Ec := 25580000 \cdot psi$

The Young's modulus of the closure plate material, $El := 25580000 \cdot psi$

The Poisson's ratio of the closure plate material, $NUl := 0.3$

The closure bolt material coefficient of thermal expansion, $ab := 7.594 \cdot 10^{-6} \cdot R^{-1}$

The cask wall material coefficient of thermal expansion, $ac := 7.198 \cdot 10^{-6} \cdot R^{-1}$

The closure plate material coefficient of thermal expansion, $al := 7.198 \cdot 10^{-6} \cdot R^{-1}$

The zero points of the Fahrenheit and Rankine scales differ by a constant (1 °F = 1 R), therefore the above numbers are accurate with either unit.

Young's modulus of the closure bolt material, $Eb := 27028000 \cdot psi$

Young's modulus of top flange material, $Elf := 25580000 \cdot psi$

3.AF.10 Bolt Stress Calculations

3.AF.10.1 Identification and Evaluation of Load Parameters, Combined Load Case 1

The load parameters for each individual loading are defined as follows.

Loading parameters for preload:

The nominal value of the nut factor is 0.15 from Reference 3.AF.3.
The minimum nut factor, based on a tolerance of +/- 5%, is $K := 0.1425$

The maximum bolt preload torque per bolt (Table 7.1.2), $Q := 2895 \cdot ft \cdot lbf + 90 \cdot ft \cdot lbf$

Loading parameters for pressure load:

The pressure inside the cask wall, $Pci := 100 \cdot psi$

The pressure outside the cask wall, $Pco := 14.7 \cdot psi$

The pressure inside the closure lid, $Pli := 100 \cdot psi$

The pressure outside the closure lid, $Plo := 14.7 \cdot psi$

Loading parameters for the cold condition temperature load: (bolt installation at 70 deg. F)

The maximum temperature change of the main flange,
$Tc := (524 - 70) \cdot R$

The maximum temperature change of the closure lid inner surface,
$Tli := (524 - 70) \cdot R$

The maximum temperature change of the closure lid outer surface,

$$Tlo := (524 - 70)\cdot R$$

The maximum temperature change of the closure lid, $Tl := \frac{Tli + Tlo}{2}$ $\quad Tl = 454\,R$

The maximum temperature change of the closure bolts,

$$Tb := (524 - 70)\cdot R \qquad Tb = 454\,R$$

As these parameters are all temperature differences, the Fahrenheit-to-Rankine conversion factor of 460° can be omitted.

3.AF.10.2 Determination of Bolt Forces and Moments for the Individual Loadings

Array parameters are used to account for the multiple individual loadings within the combined load case. There are three individual loadings, so let i include the range from 1 to 3 as follows:

Let $i := 1..3$

The forces and moments generated by each individual load case are represented by the following symbols:

The non-prying tensile bolt force per bolt = Fa_i

The shear bolt force per bolt = Fs_i

The fixed-edge closure lid force = Ff_i

Fixed-edge closure lid moment = Mf_i

The subscript i is used only to keep track of each individual load case within a load combination.

The first individual loading in this load combination is the residual load after the preload operation. The forces and moments generated by this load are defined as [3.AF.1, Table 4.1]:

The non-prying tensile bolt force per bolt, $Fa_1 := \frac{Q}{K\cdot Db}$

The maximum residual tensile bolt force (preload) per bolt, $Far_1 := Fa_1$

The maximum residual torsional bolt moment per bolt, $Mtr := 0.5\cdot Q$

The preload stress in each bolt (based on stress area), $Preload := \frac{Fa_1}{A_b}$

Substituting the appropriate input data, the values of these parameters are determined as:

$$Fa_1 = 154688\,lbf$$

$$Far_1 = 154688\,lbf$$

$$Mtr = 17910\,in \cdot lbf$$

$$Preload = 92076\,psi$$

The second individual loading in this load combination is the pressure load. The forces and moments generated by this load are defined as follows [3.AF.1, Table 4.3]:

The non-prying tensile force per bolt, $Fa_2 := \frac{\pi \cdot Dlg^2 \cdot (Pli - Plo)}{4 \cdot Nb}$

The shear bolt force per bolt, $Fs_2 := \frac{\pi \cdot El \cdot tl \cdot (Pci - Pco) \cdot Dlb^2}{2 \cdot Nb \cdot Ec \cdot tc \cdot (1 - NUl)}$

The fixed-edge closure lid force, $Ff_2 := \frac{Dlb \cdot (Pli - Plo)}{4}$

The fixed-edge closure lid moment, $Mf_2 := \frac{(Pli - Plo) \cdot Dlb^2}{32}$

Substituting the appropriate input data, the values of these parameters are determined as:

$$Fa_2 = 6354\,lbf$$

$$Fs_2 = 18816\,lbf$$

$$Ff_2 = 1594\,\frac{lbf}{in}$$

$$Mf_2 = 14894\,lbf$$

The third individual loading in this load combination is the temperature load. The forces and moments generated by this load are defined as [3.AF.1, Table 4.4]:

The non-prying tensile bolt force per bolt, $Fa_3 := 0.25 \cdot \pi \cdot Db^2 \cdot Eb \cdot (al \cdot Tl - ab \cdot Tb)$

The shear bolt force per bolt, $Fs_3 := \frac{\pi \cdot El \cdot tl \cdot Dlb \cdot (al \cdot Tl - ac \cdot Tc)}{Nb \cdot (1 - NUl)}$

The fixed-edge closure lid force,

$$Ff_3 := 0 \cdot \frac{lbf}{in}$$

The fixed-edge closure lid moment, $Mf_3 := \frac{El \cdot al \cdot tl^2 \cdot (Tlo - Tli)}{12 \cdot (1 - NUl)}$

Substituting the appropriate input data, the values of these parameters are determined as:

$$Fa_3 = -10078\ lbf$$

$$Fs_3 = 0\ lbf$$

$$Ff_3 = 0 \frac{lbf}{in}$$

$$Mf_3 = 0\ lbf$$

3.AF.10.3 Determination of Combined Bolt Forces and Combined Bolt Moments

The calculations in the following subsections are performed in accordance with Tables 4.9, 2.1 and 2.2 of Reference 3.AF.1.

3.AF.10.3.1 Tensile Bolt Force

First, combine the non-prying tensile bolt forces (Fa_i):

The total preload and temperature load, $Fa_pt := Fa_1 + Fa_3$

$$Fa_pt = 144611\ lbf$$

The sum of the remaining forces (pressure),

$$Fa_al := Fa_2$$

$$Fa_al = 6354\ lbf$$

The combined non-prying tensile bolt force,

$$Fa_c := Fa_al \cdot (Fa_al > Fa_pt) + Fa_pt \cdot (Fa_pt > Fa_al)$$

$$Fa_c = 144611\ lbf$$

If the combined non-prying tensile bolt force (Fa_c) is negative, set it equal to zero. Per Appendix 3 of Reference [3.AF.1], inward directed loads are not reacted by the bolts, but the developed formulations are still valid if the spurious bolt forces < 0.0 are removed from the calculation.

$$Fa_c := Fa_c \cdot (Fa_c > 0 \cdot lbf)$$

$$Fa_c = 144611\ lbf$$

Next, combine the prying tensile bolt forces and moments (these bolt forces develop due to Ff_i and Mf_i):

The sum of the fixed edge forces, $Ff_c := Ff_1 + Ff_2 + Ff_3$

$$Ff_c = 1594 \frac{lbf}{in}$$

If the combined fixed-edged force (Ff_c) is negative, set it equal to zero.

$$Ff_c := Ff_c \cdot \left(Ff_c > 0 \cdot \frac{lbf}{in}\right) + 0 \cdot \frac{lbf}{in} \cdot \left(Ff_c < 0 \cdot \frac{lbf}{in}\right) \qquad Ff_c = 1.594 \times 10^3 \frac{lbf}{in}$$

The sum of fixed-edge moments, $Mf_c := Mf_1 + Mf_2 + Mf_3$

$$Mf_c = 14894 \frac{lbf \cdot in}{in}$$

Define the appropriate prying force moment arm depending on the direction of Mf_c. For inward directed loading, prying moments are developed by the lid rotating about the flange inner edge; for outward directed loading, prying moments are developed by the lid rotating about its outer edge. Thus, the moment arms are different in the two cases.

$$Arm := (Dlo - Dlb) \cdot (Mf_c > 0 \cdot lbf) + (Dlb - Dli) \cdot (Mf_c < 0 \cdot lbf)$$

$$Arm = 2.625\ in$$

The prying tensile bolt force for the combined loading can therefore be determined as:

The constants C_1 and C_2 are: $C_1 := 1$

$$C_2 := \left[\frac{8}{3 \cdot (Arm)^2}\right] \cdot \left[\frac{El \cdot tl^3}{1 - NUl} + \frac{(Dlo - Dli) \cdot Elf \cdot tlf^3}{Dlb}\right] \cdot \left(\frac{Lb}{Nb \cdot Db^2 \cdot Eb}\right)$$

$$C_2 = 3.35$$

The bolt preload per unit length of bolt circle, $P := Fa_pt \cdot \left(\frac{Nb}{\pi \cdot Dlb} \right)$

$$P = 33253 \frac{lbf}{in}$$

The parameter P is the pressure/temperature force which is multiplied to determine preload per unit length of bolt circle (see Tables 2.1 and 4.9 in Section II.3 of Reference 3.AF.1).

The non-prying tensile bolt force, $B := Ff_c \cdot (Ff_c > P) + P \cdot (P > Ff_c)$

$$B = 33253 \frac{lbf}{in}$$

The additional tensile bolt force per bolt caused by prying action of the closure lid,

$$Fap := \left(\frac{\pi \cdot Dlb}{Nb} \right) \cdot \left[\frac{\frac{2 \cdot Mf_c}{Arm} - C_1 \cdot (B - Ff_c) - C_2 \cdot (B - P)}{C_1 + C_2} \right]$$

$$Fap = -20306\ lbf$$

The prying force must be tensile. If the result is negative, set it equal to zero.

$$Fab_c := Fap \cdot (Fap > 0 \cdot lbf) + 0 \cdot lbf \cdot (Fap < 0 \cdot lbf)$$

$$Fab_c = 0\ lbf$$

The total tensile bolt force for stress analysis, $FA := Fa_c + Fab_c$

$$FA = 144611\ lbf$$

3.AF.10.3.2 <u>Bolt Shear Force</u>

The sum of the shear forces, $Fs_c := Fs_1 + Fs_2 + Fs_3$

$$Fs_c = 18816\ lbf$$

$Fs := 0 \cdot lbf$ (protected cask lid)

3.AF.10.3.3 Bolt Bending Moment

The calculations in this section are performed in accordance with Table 2.2 of Reference 3.AF.1. The following relations are defined:

$$Kb := \left(\frac{Nb}{Lb}\right)\cdot\left(\frac{Eb}{Dlb}\right)\cdot\left(\frac{Db^4}{64}\right)$$

$$Kl := \frac{El\cdot tl^3}{3\cdot\left[\left(1 - NUl^2\right) + \left(1 - NUl\right)^2\cdot\left(\frac{Dlb}{Dlo}\right)^2\right]\cdot Dlb}$$

$$Mbb_c := \left(\frac{\pi\cdot Dlb}{Nb}\right)\cdot\left(\frac{Kb}{Kb + Kl}\right)\cdot Mf_c$$

$$Mbb := Mbb_c$$

where Mbb is the bolt bending moment. Substituting the appropriate values, these parameters are calculated as:

$$Kb = 500542\ lbf$$

$$Kl = 17462632\ lbf$$

$$Mbb_c = 1.805 \times 10^3\ lbf\cdot in$$

$$Mbb = 1.805 \times 10^3\ lbf\cdot in$$

3.AF.10.3.4 Bolt Torsional Moment

The torsional bolt moment is generated only by the preloading operation, therefore no combination is necessary.

3.AF.10.4 Evaluation of Bolt Stresses

Per Table 5.1 of Reference 3.AF.1, the average and maximum bolt stresses for comparison with the acceptance criteria are obtained. Inch-series threads are used and the maximum shear and bending are in the bolt thread.

The bolt diameter for tensile stress calculation [3.AF.1, Table 5.1 $Dba := Db - 0.9743\cdot p$

$$Dba = 1.503\ in$$

The bolt diameter for shear stress calculation, $Dbs := Dba$

$Dbs = 1.503\,in$

The bolt diameter for bending stress calculation, $Dbb := Dba$

$Dbb = 1.503\,in$

The bolt diameter for torsional stress calculation,

$Dbt := Dba$

$Dbt = 1.503\,in$

The average tensile stress caused by the tensile bolt force FA, $Sba := 1.2732 \cdot \frac{FA}{Dba^2}$

$Sba = 81481\,psi$

The average shear stress caused by the shear bolt force Fs, $Sbs := 1.2732 \cdot \frac{Fs}{Dbs^2}$

$Sbs = 0\,psi$

The maximum bending stress caused by the bending bolt moment Mb,

$Sbb := 10.186 \cdot \frac{Mbb}{Dbb^3}$

$Sbb = 5412\,psi$

The maximum shear stress caused by the torsional bolt moment Mt,

$Sbt := 5.093 \cdot \frac{Mtr}{Dbt^3}$

$Sbt = 26854\,psi$

The maximum stress intensity caused by the combined loading of tension, shear, bending and torsion can therefore be determined as:

$$Sbi := \left[(Sba + Sbb)^2 + 4 \cdot (Sbs + Sbt)^2\right]^{0.5}$$

$Sbi = 102152\,psi$

3.AF.10.5 Comparison with Acceptance Criteria

The final bolt stress is less than the preload stress $Preload = 9.208 \times 10^4\,psi$

$$\frac{Sba}{Preload} = 0.885$$

The average tensile stress under the imposed condition is close to the corresponding stress under the preload condition. There is only a 11.5% decrease in average bolt tensile stress. Therefore, the sealing will be maintained.

3.AF.11 Conclusion

Using the standard method presented in Reference 3.AF.1, the above analysis demonstrates that the tensile stress in the closure bolts remains positive under the imposed preload, pressure and temperature conditions under the postulated storage fire accident where the metal in the vicinity of the bolts is 524 degrees F. The closure bolts for the HI-STAR 100 Overpack will therefore not unload.

APPENDIX 3.AG - STRESS ANALYSIS OF THE HI-STAR 100 ENCLOSURE SHELL UNDER 30psi INTERNAL PRESSURE

3.AG.1 Introduction:

The outer region of the HI-STAR 100 overpack consists of radial sector shells made of stabilized carbon steel plate stock with annular ring closures at the top and bottom. These closed "sector shaped" cylindrical spaces are referred to as "enclosure shells" because they enclose the neutron absorber material (Holtite-A). Experimental data by Holtec and others conclusively suggests that Holtite-A is a stable material under the environmental and thermal conditions corresponding to the normal operation modes of the HI-STAR 100 overpack. However, under an extreme environmental event (notably, a fire), the temperature in the enclosure shell cavity may rise, leading to the generation of water vapor. This occurs because neutron absorbers in use in contemporary cask designs utilize materials with water molecules in intermolecular bond with metal alloys to maximize their hydrogen content; the molecular bond weakens at high temperature leading to the liberation of water droplets. To protect the enclosure shell from overpressure, two design measures are incorporated:

(i) A layer of foam is in place, along with Holtite-A, to allow for expansion.

(ii) Two rupture disks (for redundancy) with a relatively low set pressure (30 psig) are installed to relieve water vapor if the temperature rise in the cask, for whatever reason, is rapid and excessive.

In addition to the built-in pressure protection, the structural design of the enclosure shell is configured to insure that at 30 psi internal pressure, the stresses in the enclosure shell structure are well below the "Level A" stress limits for a ASME Section III, Subsection NF structure. Furthermore, information necessary to demonstrate that Holtite-A will not off-gas under the design basis heat load and maximum normal ambient condition is also compiled herein from the main body of the report.

Finally, the geometric details of the enclosure shell may be found in drawings 1397, 1399 and BM-1476 wherein the top and bottom annular plates are denoted as "shell returns". Stress analysis presented in this appendix uses data from the above mentioned design documents (placed in Section 1.5 of this FSAR).

3.AG.2 Stability of Holtite-A in Normal Operating Condition Mode

A paper by Asano and Niomura ("Experimental Studies on Long-term Thermal Degradation of Enclosed Neutron Shielding Resin"), which experimentally evaluates the weight loss of Holtite-A, is included in Appendix 1.B of this FSAR. For long-term exposure of an enclosed Holtite-A sample to a temperature of 125°C, the paper shows that the water loss rate is insignificant.

The maximum calculated temperature of Holtite, for the design basis decay heat load and maximum normal ambient temperature conditions, is presented in Table 4.4.10 for the MPC-24 and Table 4.4.11 for the MPC-68 (MPC-24 governs). This calculated maximum normal temperature occurs at the inner surface of the Holtite near the cask mid-height. The maximum overpack enclosure surface temperature, also presented in Table 4.4.10, is approximately equal to the maximum outer Holtite surface temperature. As the Holtite temperature decreases with distance from the cask mid-height, a conservative estimate of the maximum bulk average Holtite temperature can be obtained by averaging these two maximum temperatures.

$T_i := 274$ Inner Holtite Surface Maximum Temperature, F

$T_o := 229$ Outer Holtite Surface Maximum Temperature, F

$T_b := \frac{T_i + T_o}{2}$ $T_b = 251.5$ Conservative Holtite Bulk Average Temperature, F

$T_b := (T_b - 32) \cdot \frac{5}{9}$ $T_b = 121.9$ Conservative Holtite Bulk Average Temperature, C

This temperature is less than the 125°C temperature which has been shown by experiment to have no significant water loss. It is further noted that the Holtite bulk average temperature is not constant over the 20 year cask design life, but will reduce monotonically with the decay heat load.

As the decay heat load of the stored fuel assemblies attenuates over time, the Holtite bulk average temperature will approach the ambient temperature of 80°F (approximately 27°C). For example, a Holtite bulk average temperature of 100°C would require a temperature reduction of:

$$\Delta T_b := \frac{T_b - 100}{T_b - 27} \qquad \Delta T_b = 23.1\,\% \qquad \text{Required Temperature Reduction}$$

This reduction in temperature will require an equivalent reduction in decay heat load. The reduction in decay heat load is not linear with time, but is governed by the exponential nature of radioactive decay. For the design basis BWR and PWR fuel assemblies, the assembly decay heat load is determined as a function of time in Holtec Report HI-951322, Revision 6 (pages 24-3 and 25-3). For both BWR and PWR fuel assemblies, a decay heat reduction equal to the required temperature reduction is achieved in less than 2 years. The temperature margin to 125 degrees C will, therefore, increase rapidly as the design basis fuel cools.

It can therefore be concluded that there will be no significant water loss from the Holtite during the entire HI-STAR 100 System storage life. Therefore, the production of water vapor in the Holtite-filled cavities during normal storage conditions, resulting in the rise of pressure in the enclosure shell cavity, is ruled out as a credible possibility.

3.AG.3 Stress Analysis for Internal Pressure

The stress analysis of the flat panels in the enclosure shell and the flat annular ring making up the enclosure shell return are analyzed by considering a representative beam strip of unit width. This approach is conservative as it neglects any additional support from the flat plate and annular ring effects.

(i) References:

[3.1] Mathcad 7.0, Mathsoft, 1997.

(ii) Input Data:

All dimensions taken from Holtec drawings 1397, 1399, and from BM 1476 for HI-STAR 100.

Thickness of enclosure shell panels: $t_v := 0.5 \cdot in$

Thickness of enclosure shell return: $t_p := 0.5 \cdot in$

Enclosure shell return unsupported outer diameter: $OD := 96 \cdot in - t_v$

Enclosure shell return inner diameter: $ID := 85.75 \cdot in$

Enclosure shell panel unsupported width: $b_s := 7.875 \cdot in$ Bounding reference value

Bottom panel unsupported length: $L := .5 \cdot (OD - ID)$ $L = 4.875\,in$

The allowable primary bending stress is (SA-515,Gr.70 allowable stresses are listed in Table 3.1.10 of the HI-STAR FSAR):

$S_a := 26300 \cdot psi$

(iii) Calculations

(a) Internal pressure for stress analysis

For the purpose of this calculation, 30 psi is used as the internal pressure to bound the effects of off-gassing of the neutron absorber material. We denote this input pressure as q. Table 2.2.1 lists 30 psi as the design pressure.

$q := 30 \cdot psi$

(b) Bottom annular plate (enclosure shell return):

The plate is conservatively considered to be simply supported at both the inside and at the outside diameter. Because of the small unsupported annulus, the solution for a beam strip 1" wide is considered since the plate effects are negligible.

w = strip width $w := 1 \cdot in$

The bending moment at the center of the strip is

$$M_c := w \cdot \frac{q \cdot L^2}{8} \qquad M_c = 89.121\,lbf \cdot in$$

The maximum bending stress for a simply supported beam strip is

$$\sigma := M_c \cdot \frac{(.5 \cdot t_p)}{\left(\frac{w \cdot t_p^3}{12}\right)} \qquad \text{or} \qquad \sigma := .75 \cdot q \cdot \left(\frac{L}{t_p}\right)^2$$

$$\sigma = 2.139 \times 10^3 \text{ psi}$$

The calculated stress in the plate is less than the allowable limit. The safety factor for primary bending is

$$SF := \frac{S_a}{\sigma} \qquad SF = 12.296$$

(c) Enclosure Shell Flat Side Panels

These flat panels are treated as 1 inch wide beams. The actual end boundary condition is considered as an average of the simply supported and clamped conditions. This is reasonable since the groove welds most likely provide a support condition that is essentially clamped; the use of an average between pinned and clamped conditions will be conservative. The stress at the center of the panel is computed as follows:

The maximum bending moment is computed as the average of the moment for the two limiting end conditions:

$$M_{max} := 0.5 \cdot \left(\frac{q \cdot w \cdot b_s^2}{8} + \frac{q \cdot w \cdot b_s^2}{24} \right) \qquad M_{max} = 155.039 \text{ lbf} \cdot \text{in}$$

The beam section modulus is:

$$S := \frac{w \cdot t_v^2}{6} \qquad S = 0.042 \text{ in}^3$$

The maximum calculated bending stress is:

$$\sigma_{maxv} := \frac{M_{max}}{S} \qquad \sigma_{maxv} = 3.721 \times 10^3 \text{ psi}$$

$$SF := \frac{S_a}{\sigma_{maxv}} \qquad SF = 7.068$$

(d) Calculation of Weld Shear Stress

We consider the vertical weld between enclosure shell flat panels and the radial sectors and the circumferential weld between the enclosure shell and the enclosure shell return as representative welds for analysis. Table NF-3324.5(a)-1 in Subsection NF of the Code, requires that the allowable stress for the weld be equal to the allowable stress in the base metal. For the allowable weld stress in shear, we apply the limit given in NF-3252.2 for pure shear, namely, 60% of the tensile limit.

Model the weld as a 3/16" groove weld for calculation purposes.

$$t_{weld} := \frac{3}{16} \cdot in$$

The shear stress due to the internal pressure in the vertical flat panel weld is

$$\tau_{weld} := \frac{q \cdot .5 \cdot b_s}{t_{weld}} \qquad \tau_{weld} = 630\,psi$$

Since the allowable base metal stress for primary bending has been input earlier, we divide this value by 1.5 to obtain an allowable primary membrane stress.

$$SF := \frac{.6 \cdot \left(\frac{S_a}{1.5}\right)}{\tau_{weld}} \qquad SF = 16.698$$

For the weld around the annular ring, we note that since the unsupported strip width is less than the value used above, the weld shear stress will be even lower. Thus, the flat panel weld controls the design.

3.AG.4 Conclusion

For a 30 psi internal pressure, all safety factors are well in excess of 1.0 demonstrating that the 30 psig internal pressure is safely supported by the enclosure shell and the enclosure shell return.

Although the effect of dead weight of the neutron absorber material has not been included as an additional loading in the analysis of the enclosure shell return, it is clear from the large safety factors that structural integrity will not be compromised.

There is no credible mechanism for the pressure to exceed 30 psi under normal operating conditions in the enclosure shell sectors.

APPENDIX AH MPC-LIFT LUGS

AH.1.0 SCOPE:

During fabrication and transport to the site, an MPC with fuel basket
This analysis considers the four MPC Lift Lugs. The lifted load is equal to the MPC empty weight without top lid plus the fuel basket. No fuel is carried when these lugs are used for lifting. The four lift lugs each consist of a vertical lug stiffened by a horizontal plate. The lift lug is shown in Drawings 1395 and 1401, Sheet 4.

AH.2.0 METHODOLOGY:

Strength of Materials beam formulas are used to compute the stress in the lug assuming that the shell plate acts as a fixed base for the lift lug. The applied load is the weight of the heaviest MPC without fuel (MPC-24). The geometry for the lift lug, however, is that of the smallest lift lug.

AH.3.0 ACCEPTANCE CRITERIA:

NUREG 0612 is applied with a factor of safety of 3 on yield strength or 5 on ultimate strength, whichever governs. Each unit has four (4) lift lugs.

AH.4.0 INPUT DATA

AH.4.1 Allowable Strength

Per Table 3.3.1, FSAR @ 100 degrees F, the yield and ultimate strengths for Alloy "X" are

$S_y := 30000 \cdot psi$

$S_u := 75000 \cdot psi$

Therefore, in accordance with NUREG 0612 and ANSI N14-6, the allowable strength under the actual lifted load is

$\sigma_a := \frac{S_y}{3}$ $\qquad \sigma_a = 1 \times 10^4 psi$

The actual lifted load is

$W_{empty_MPC} := 39667 \cdot lbf$ Table 3.2.1, FSAR

$W_{lid} := 9880 \cdot lbf$

Therefore

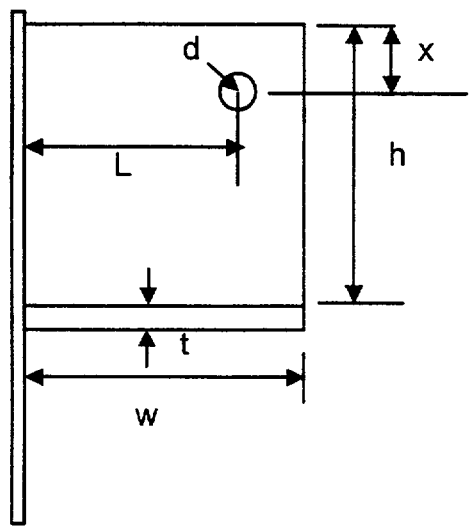
$W := W_{empty_MPC} - W_{lid}$ $\qquad W = 2.979 \times 10^4 lbf$

In accordance with Holtec's accepted practice for Cask lifts, we apply a 15% dynamic amplification factor appropriate to a low speed lift (Per CMAA, #70). Therefore, the apparent lifted load, per lift lug, is

$W_{lift} := W \cdot \frac{1.15}{4}$ $\qquad W_{lift} = 8.564 \times 10^3 \, lbf$

AH.4.2 Geometry

From the MPC drawing 1401, Sheet 4, we use the following data



$t := 0.75 \cdot in$ $\qquad x := 1.5 \cdot in$

$h := 8.75 \cdot in$ $\qquad$ width of flange $\qquad wf := 4 \cdot in$

$L := 2 \cdot in$ $\qquad$ Weld sizes

$w := 2.5 \cdot in$ $\qquad t_{weld_web} := 0.25 \cdot in$

$d := 1.125 \cdot in$ $\qquad t_{weld_flange} := 0.375 \cdot in$

AH.5.0 CALCULATIONS

AH.5.1 Bearing Stress in Lift Hole

$\sigma_{bearing} := \frac{W_{lift}}{t \cdot d}$ $\qquad \sigma_{bearing} = 1.015 \times 10^4 \, psi$

$SF := \frac{\sigma_a}{\sigma_{bearing}}$ $\qquad SF = 0.985$

Note that there is no requirement per ANSI N14.6 that local bearing stresses are subject to the same allowable stress as the primary stresses (see section 3.2.1.2 of ANSI N14.6).

AH.5.2 Shear Pullout

$$\tau_{shear} := \frac{W_{lift}}{2 \cdot x \cdot t} \qquad \tau_{shear} = 3.806 \times 10^3 \text{ psi}$$

$$SF := \frac{.6 \cdot \sigma_a}{\tau_{shear}} \qquad SF = 1.576$$

AH.5.3 Net Shear Stress on Root of Lug (Beam)

$$\tau_{net} := \frac{W_{lift}}{h \cdot t} \qquad \tau_{net} = 1.305 \times 10^3 \text{ psi}$$

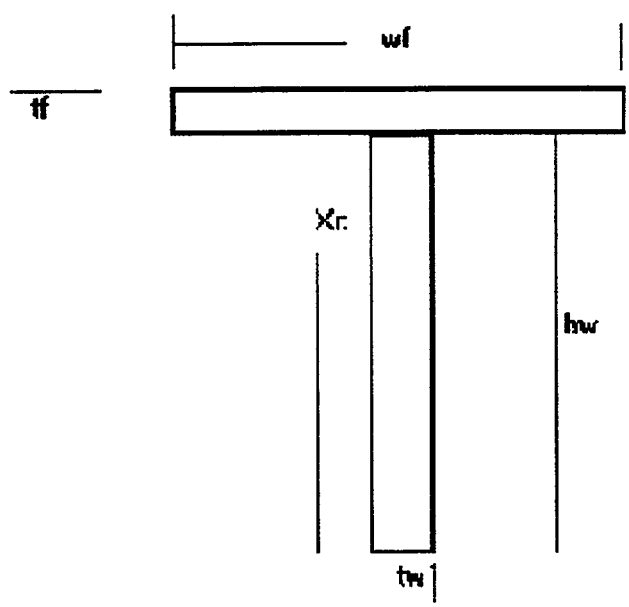
$$SF_{shear} := \frac{.6 \cdot \sigma_a}{\tau_{net}} \qquad SF_{shear} = 4.598$$

AH.5.4 Net Bending Stress at Root of Lug

AH.5.4.1 Determine moment of inertia of inverted "T" section

The lug plate plus the stiffener form a "T" section. For stress determination, we need to compute the section properties of the lug, considered as a composite member.

GEOMETRY OF BUILT UP TEE SECTION



$hw := h$ $\qquad tw := t$

$wf = 4 \text{ in}$ $\qquad tf := t$

Guess value for centroid

$$X_c := \frac{hw}{2}$$

Measurement of centroid is relative to free end of web

Given

$$(hw \cdot tw + wf \cdot tf) \cdot X_c = hw \cdot tw \cdot \frac{hw}{2} + (wf \cdot tf) \cdot \left(hw + \frac{tf}{2}\right) \qquad X_{cent} := \mathrm{Find}(X_c) \qquad X_{cent} = 5.865\,in$$

$$I_e := tw \cdot \frac{hw^3}{12} + wf \cdot \frac{tf^3}{12} + (hw \cdot tw) \cdot \left(X_{cent} - \frac{hw}{2}\right)^2 + (wf \cdot tf) \cdot \left[X_{cent} - (hw + .5 \cdot tf)\right]^2 \qquad I_e = 88.463\,in^4$$

AH.5.4.2 Bending Stress

$$Moment := W_{lift} \cdot L \qquad Moment = 1.713 \times 10^4\,lbf \cdot in$$

$$\sigma_{web} := \frac{Moment \cdot X_{cent}}{I_e} \qquad \sigma_{web} = 1.136 \times 10^3\,psi$$

$$\sigma_{flange} := \frac{Moment \cdot (h + t - X_{cent})}{I_e} \qquad \sigma_{flange} = 703.743\,psi$$

$$SF_{bending} := \frac{\sigma_a}{\sigma_{web}} \qquad SF_{bending} = 8.806$$

AH.5.4.3 Weld Stress

Weld Area of web plus flange

$$A_{weld} := 2 \cdot t_{weld_web} \cdot .707 \cdot h + 2 \cdot t_{weld_flange} \cdot wf \qquad A_{weld} = 6.093\,in^2$$

We use a weld efficiency of 0.4 (two sided fillet weld with visual examination, per ASME Section III, Subsection NG, Table 3352.1).

$$\tau_{weld} := \frac{W_{lift}}{A_{weld}} \qquad \tau_{weld} = 1.405 \times 10^3\,psi$$

$$SF := .6 \cdot .4 \cdot \frac{\sigma_a}{\tau_{weld}} \qquad SF = 1.708$$

AH.6.0 CONCLUSION

Stresses are compared with NUREG-0612 requirements of 3 on yield strength and 5 on ultimate strength. All primary stress computations show safety factors greater than 1.0 in the lug and in the lug to shell weld. The bearing stress in the lifting hole exceeds the 1/3 yield stress limit by 8%. However, this stress is not a primary stress.

AH.7.0 REFERENCES

7.1 NUREG 0612

7.2 ANSI N14.6 (1993) Special Lifting Devices for Loads in Nuclear Plants Over 10000 lb.

7.3 Holtec Drawing 1401, Sheet 4 for MPC-68.

7.4 HI-941184 (HI-STAR FSAR), Tables in Chapter 3

7.5 ASME Code, Section III, Subsection NG, 1995.

7.6 Crane Manufacturers Association of America, CMAA #70.

APPENDIX 3.AI - ANALYSIS OF TRANSNUCLEAR DAMAGED FUEL CANISTER AND THORIA ROD CANISTER

3.AI.1 Introduction

Some of the items at the Dresden Station that have been considered for storage in the HI-STAR 100 System are damaged fuel stored in Transnuclear damaged fuel canisters and Thoria rods that are also stored in a special canister designed by Transnuclear. Both of these canisters have been designed and have been used by ComEd to transport the damaged fuel and the Thoria rods. Despite the previous usage of these canisters, it is prudent and appropriate to provide an independent structural analysis of the major load path of these canisters prior to accepting them for inclusion as permitted items in the HI-STAR 100 MPC's. This appendix contains the necessary structural analysis of the Transnuclear damaged fuel canister and Thoria rod canister. The objective of the analysis is to demonstrate that the canisters are structurally adequate to support the loads that develop during normal lifting operations and during postulated accident conditions.

The upper closure assembly is designed to meet the requirements of NUREG-0612 [2]. The remaining components of the canisters are governed by ASME Code Section III, Subsection NG [3]. These are the same criteria used in Appendix 3.B to analyze the Holtec damaged fuel container for Dresden damaged fuel.

3.AI.2 Composition

This appendix was created using the Mathcad (version 8.02) software package. Mathcad uses the symbol ':=' as an assignment operator, and the equals symbol '=' retrieves values for constants or variables.

3.AI.3 References

1. Crane Manufacture's of America Association, Specifications for Electric Overhead Traveling Cranes #70.

2. NUREG-0612, Control of Heavy Loads at Nuclear Power Plants

3. ASME Boiler and Pressure Vessel Code, Section III, July 1995

3.AI.4 Assumptions

1. Buckling is not a concern during an accident since during a drop the canister will be confined by the fuel basket.

2. The strength of the weld is assumed to decrease the same as the base metal as the temperature increases.

3.AI.5 Method

Two are considered: 1) normal lifting and handling of canister, and 2) accident drop event.

3.AI.6 Acceptance Criteria

1) Normal Handling -

a) Canister governed by ASME NG allowables:

b)Welds governed by NG and NF allowables;
quality factors taken from NG
stress limit = 0.3 Su

c) Lifting governed by NUREG-0612 allowables.

2) Drop Accident -

a) canister governed by ASME NG allowables:
shear = 0.42 Su (conservative)

b)Welds governed by NG and NF allowables;
quality factors taken from NG
stress limit = 0.42 Su

3.AI.7 Input Stress Data

The canisters is handled while still in the spent fuel pool. Therefore, its design temperature for lifting considerations is the temperature of the fuel pool water (150°F). The design temperature for accident conditions is 725°F. All dimensions are taken from the Transnuclear design drawings listed at the end of this appendix. The basic input parameters used to perform the calculations are:

Design stress intensity of SA240-304 (150°F)	$S_{m1} := 20000 \cdot psi$
Design stress intensity of SA240-304 (775°F)	$S_{m2} := 15800 \cdot psi$
Yield stress of SA240-304 (150°F)	$S_{y1} := 27500 \cdot psi$
Yield stress of SA240-304 (775°F)	$S_{y2} := 17500 \cdot psi$
Ultimate strength of SA240-304 (150°F)	$S_{u1} := 73000 \cdot psi$
Ultimate strength of SA240-304 (775°F)	$S_{u2} := 63300 \cdot psi$

Ultimate strength of weld material (150°F) $Su_w := 70000 \cdot psi$

Ultimate strength of weld material (775°F) $Su_{wacc} := Su_w - (S_{u1} - S_{u2})$

Weight of a BWR fuel assembly (D-1) $W_{fuel} := 400 \cdot lbf$

Weight of 18 Thoria Rods (Calculated by Holtec) $W_{thoria} := 90 \cdot lbf$

Bounding Weight of the damaged fuel canister (Estimated by Holtec) $W_{container} := 150 \cdot lbf$

Bounding Weight of the Thoria Rod Canister (Estimated) $W_{rodcan} := 300 \cdot lbf$

Quality factor for full penetration weld (visual inspection) $n := 0.5$

Dynamic load factor for lifting $DLF := 1.15$

The remaining input data is provided as needed in the calculation section

3.AI.8 Calculations for Transnuclear Damaged Fuel Canister

3.AI.8.1 Lifting Operation (Normal Condition)

The critical load case under normal conditions is the lifting operation. The key areas of concern for ASME NG analysis are the canister sleeve, the sleeve to lid frame weld, and the lid frame. All calculations performed for the lifting operation assume a dynamic load factor of 1.15 [1].

3.AI.8.1.1 Canister Sleeve

During a lift, the canister sleeve is loaded axially, and the stress state is pure tensile membrane. For the subsequent stress calculation, it is assumed that the full weight of the damaged fuel canister and the fuel assembly are supported by the sleeve. The magnitude of the load is

$$F := DLF \cdot (W_{container} + W_{fuel}) \qquad F = 632\,lbf$$

From TN drawing 9317.1-120-4, the canister sleeve geometry is

$id_{sleeve} := 4.81 \cdot in \qquad t_{sleeve} := 0.11 \cdot in$

The cross sectional area of the sleeve is

$$A_{sleeve} := (id_{sleeve} + 2 \cdot t_{sleeve})^2 - id_{sleeve}^2 \qquad A_{sleeve} = 2.16\,in^2$$

Therefore, the tensile stress in the sleeve is $\sigma := \frac{F}{A_{sleeve}}$ $\sigma = 292\,psi$

The allowable stress intensity for the primary membrane category is S_m per Subsection NG of the ASME Code. The corresponding safety margin is

$$SM := \frac{S_{m1}}{\sigma} - 1 \qquad SM = 67.5$$

3.AI.8.1.2 Sleeve Welds

The top of the canister must support the amplified weight. This load is carried directly by the fillet weld that connects the lid frame to the canister sleeve. The magnitude of the load is conservatively taken a the entire amplified weight of canister plus fuel.

$$F = 632\,lbf$$

The weld thickness is $t_{base} := 0.09 \cdot in$

The area of the weld, with proper consideration of quality factors, is

$$A_{weld} := n \cdot 4 \cdot (id_{sleeve} + 2 \cdot t_{sleeve}) \cdot .7071 \cdot t_{base} \qquad A_{weld} = 0.64\,in^2$$

Therefore, the shear stress in the weld is $\tau := \frac{F}{A_{weld}}$ $\tau = 988\,psi$

From the ASME Code the allowable weld shear stress, under normal conditions (Level A), is 30% of the ultimate strength of the base metal. The corresponding safety margin is

$$SM := \frac{0.3 \cdot S_{u1}}{\tau} - 1 \qquad SM = 21.2$$

3.AI.8.1.3 Lid Frame Assembly

The Lid Frame assembly is classified as a NUREG-0612 lifting device. As such the allowable stress for design is the lesser of one-sixth of the yield stress and one-tenth of the ultimate strength.

$$\sigma_1 := \frac{S_{y1}}{6} \qquad \sigma_2 := \frac{S_{u1}}{10}$$

$$\sigma_1 = 4583\,psi \qquad \sigma_2 = 7300\,psi$$

For SA240-304 material the yield stress governs. $\sigma_{allowable} := \sigma_1$

The total lifted load is $F := DLF \cdot (W_{container} + W_{fuel})$ $F = 632\,lbf$

The frame thickness is obtained from Transnuclear drawing 9317.1-120-11

$t_{frame} := 0.395 \cdot in$

The inside span is the same as the canister sleeve $id_{sleeve} = 4.81\,in$

The area available for direct load is

$A_{frame} := (id_{sleeve} + 2 \cdot t_{frame})^2 - id_{sleeve}^2$ $A_{frame} = 8.224\,in^2$

The direct stress in the frame is $\sigma := \frac{F}{A_{frame}}$ $\sigma = 77\,psi$

The safety margin is $SM := \frac{\sigma_{allowable}}{\sigma} - 1$ $SM = 58.59$

The bearing stress at the four lift locations is computed from the same drawing

$A_{bearing} := 4 \cdot t_{frame} \cdot (2 \cdot 0.38 \cdot in)$ $A_{bearing} = 1.201\,in^2$

$\sigma_{bearing} := \frac{F}{A_{bearing}}$ $\sigma_{bearing} = 526.732\,psi$ $SM := \frac{\sigma_{allowable}}{\sigma_{bearing}} - 1$ $SM = 7.7$

3.AI.8.2 60g End Drop (Accident Condition)

The critical member of the damaged fuel canister during the drop scenario is the bottom assembly (see Transnuclear drawing 9317.1-120-5). It is subjected to direct compression due to the amplified weight of the fuel assembly and the canister. The bottom assembly is a 3.5" Schedule 40S pipe. The load due to the 60g end drop is

$F := 60 \cdot (W_{fuel} + W_{container})$ $F = 33000\,lbf$

The properties of the pipe are obtained from the Ryerson Stock Catalog as

$od := 4 \cdot in$ $id := 3.548 \cdot in$ $t_{pipe} := \frac{(od - id)}{2}$ $t_{pipe} = 0.226\,in$

The pipe area is

$$A_{pipe} := \frac{\pi}{4}\cdot\left(od^2 - id^2\right) \qquad A_{pipe} = 2.68\,in^2$$

The stress in the member is

$$\sigma := \frac{F}{A_{pipe}} \qquad \sigma = 12316\,psi$$

The allowable primary membrane stress from Subsection NG of the ASME Code, for accident conditions (Level D), is

$$\sigma_{allowable} := 2.4\cdot S_{m2} \qquad \sigma_{allowable} = 37920\,psi$$

The safety margin is

$$SM := \frac{\sigma_{allowable}}{\sigma} - 1 \qquad SM = 2.1$$

To check the stability of the pipe, we conservatively compute the Euler Buckling load for a simply supported beam.

The Young's Modulus is

$$E := 27600000\cdot psi$$

Compute the moment of inertia as

$$I := \frac{\pi}{64}\cdot\left(od^4 - id^4\right) \qquad I = 4.788\,in^4$$

$$L := 22\cdot in \qquad P_{crit} := \pi^2\cdot\frac{E\cdot I}{L^2} \qquad P_{crit} = 2.695\times 10^6\,lbf$$

The safety margin is

$$SM := \frac{P_{crit}}{F} - 1 \qquad SM = 80.654$$

3.AI.8.3 Conclusion for TN Damaged Fuel Canister

The damaged fuel canister and the upper closure assembly are structurally adequate to withstand the specified normal and accident condition loads. All calculated safety margins are greater than zero.

3.AI.9 Calculations for Transnuclear Thoria Rod Canister

3.AI.9.1 Lifting Operation (Normal Condition)

The critical load case under normal conditions is the lifting operation. The key areas of concern for ASME NG analysis are the canister sleeve, the sleeve to lid frame weld, and the lid frame. All calculations performed for the lifting operation assume a dynamic load factor of 1.15.

3.AI.9.1.1 Canister Sleeve

During a lift, the canister sleeve is loaded axially, and the stress state is pure tensile membrane. For the subsequent stress calculation, it is assumed that the full weight of the Thoria rod canister and the Thoria rods are supported by the sleeve. The magnitude of the load is

$F := DLF \cdot (W_{rodcan} + W_{thoria})$ $\qquad F = 449\,lbf$

From TN drawing 9317.1-182-1, the canister sleeve geometry is

$id_{sleeve} := 4.81 \cdot in$ $\qquad t_{sleeve} := 0.11 \cdot in$

The cross sectional area of the sleeve is

$A_{sleeve} := (id_{sleeve} + 2 \cdot t_{sleeve})^2 - id_{sleeve}^2$ $\qquad A_{sleeve} = 2.16\,in^2$

Therefore, the tensile stress in the sleeve is $\sigma := \frac{F}{A_{sleeve}}$ $\qquad \sigma = 207\,psi$

The allowable stress intensity for the primary membrane category is S_m per Subsection NG of the ASME Code. The corresponding safety margin is

$SM := \frac{S_{m1}}{\sigma} - 1$ $\qquad SM = 95.5$

3.AI.9.1.2 Sleeve Welds

The top of the canister must support the amplified weight. This load is carried directly by the fillet weld that connects the lid frame to the canister sleeve. The magnitude of the load is conservatively taken a the entire amplified weight of canister plus Thoria rod.

$F = 449\,lbf$

The weld thickness is $t_{base} := 0.09 \cdot in$ (assumed equal to the same weld for the damaged fuel canister

The area of the weld, with proper consideration of quality factors, is

$A_{weld} := n \cdot 4 \cdot (id_{sleeve} + 2 \cdot t_{sleeve}) \cdot .7071 \cdot t_{base}$ $\qquad A_{weld} = 0.64\,in^2$

Therefore, the shear stress in the weld is $\tau := \frac{F}{A_{weld}}$ $\qquad \tau = 701\,psi$

From the ASME Code the allowable weld shear stress, under normal conditions (Level A), is 30% of the ultimate strength of the base metal. The corresponding safety margin is

$SM := \frac{0.3 \cdot S_{u1}}{\tau} - 1$ $\qquad SM = 30.3$

3.AI.9.1.3 Lid Frame Assembly

The Lid Frame assembly is classified as a NUREG-0612 lifting device. As such the allowable stress for design is the lesser of one-sixth of the yield stress and one-tenth of the ultimate strength.

$$\sigma_1 := \frac{S_{y1}}{6} \qquad \sigma_2 := \frac{S_{u1}}{10}$$

$$\sigma_1 = 4583\,\text{psi} \qquad \sigma_2 = 7300\,\text{psi}$$

For SA240-304 material the yield stress governs. $\sigma_{allowable} := \sigma_1$

The total lifted load is $F := DLF \cdot (W_{rodcan} + W_{thoria})$ $\qquad F = 449\,\text{lbf}$

The frame thickness is obtained from Transnuclear drawing 9317.1-182-8. This drawing was not available, but the TN drawing 9317.1-182-4 that included a view of the lid assembly suggests that it is identical in its structural aspects to the lid frame in the damaged fuel canister.

$$t_{frame} := 0.395 \cdot \text{in}$$

The inside span is the same as the canister sleeve $\qquad id_{sleeve} = 4.81\,\text{in}$

The area available for direct load is

$$A_{frame} := (id_{sleeve} + 2 \cdot t_{frame})^2 - id_{sleeve}^2 \qquad A_{frame} = 8.224\,\text{in}^2$$

The direct stress in the frame is

$$\sigma := \frac{F}{A_{frame}} \qquad \sigma = 55\,\text{psi}$$

The safety margin is

$$SM := \frac{\sigma_{allowable}}{\sigma} - 1 \qquad SM = 83.04$$

The bearing stress at the four lift locations is computed from the same drawing

$$A_{bearing} := 4 \cdot t_{frame} \cdot (2 \cdot 0.38 \cdot \text{in}) \qquad A_{bearing} = 1.201\,\text{in}^2$$

$$\sigma_{bearing} := \frac{F}{A_{bearing}} \qquad \sigma_{bearing} = 373.501\,\text{psi} \qquad SM := \frac{\sigma_{allowable}}{\sigma_{bearing}} - 1 \qquad SM = 11.27$$

3.AI.9.2 60g End Drop (Accident Condition)

The critical member of the damaged fuel canister during the drop scenario is the bottom assembly. Transnuclear drawing 9317.1-120-5). It is subjected to direct compression due to the amplified weight of the Thoria rods and the canister.

$F := 60 \cdot (W_{thoria} + W_{rodcan})$ $\qquad F = 23400\ lbf$

The properties of the pipe are obtained from the Ryerson Stock Catalog as

$od := 4 \cdot in \qquad id := 3.548 \cdot in \qquad t_{pipe} := \frac{(od - id)}{2} \qquad t_{pipe} = 0.226\ in$

The pipe area is

$A_{pipe} := \frac{\pi}{4} \cdot (od^2 - id^2) \qquad A_{pipe} = 2.68\ in^2$

The stress in the member is

$\sigma := \frac{F}{A_{pipe}} \qquad \sigma = 8733\ psi$

The allowable primary membrane stress from Subsection NG of the ASME Code, for accident conditions (Level D), is

$\sigma_{allowable} := 2.4 \cdot S_{m2} \qquad \sigma_{allowable} = 37920\ psi$

The safety margin is

$SM := \frac{\sigma_{allowable}}{\sigma} - 1 \qquad SM = 3.3$

To check the stability of the pipe, we compute the Euler Buckling load for a simply supported beam.

The Young's Modulus is

$E := 27600000 \cdot psi$

Compute the moment of inertia as

$I := \frac{\pi}{64} \cdot (od^4 - id^4) \qquad I = 4.788\ in^4$

$L := 22 \cdot in$

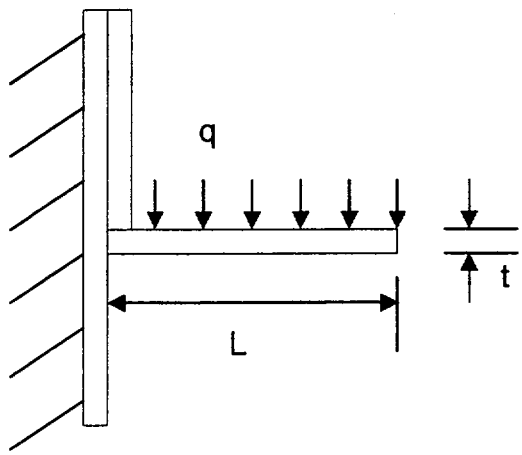
$P_{crit} := \pi^2 \cdot \frac{E \cdot I}{L^2} \qquad P_{crit} = 2.695 \times 10^6\ lbf$

The safety margin is

$SM := \frac{P_{crit}}{F} - 1 \qquad SM = 114.153$

3.AI.9.4 60g Side Drop (Accident Condition)

The Thoria Rod Separator Assembly is shown in TN drawings 9317.1-182-1 and 9317.1-182-3. under the design basis side drop or tipover accident, we examine the consequences to one of the rod support strips acting as a cantilever strip acted upon by self-weight and the weight of one Thoria rod.



Weight of 1 rod per unit length

$length := 113.16 \cdot in$

$w_{rod} := 90 \cdot \frac{lbf}{18} \cdot \frac{1}{length}$ $\qquad w_{rod} = 0.044 \frac{lbf}{in}$

Weight of support per unit length (per drawing 9317.1-182-3

$L := 1.06 \cdot in \qquad t := 0.11 \cdot in$

$w_{sup} := .29 \cdot \frac{lbf}{in^3} \cdot L \cdot t$ $\qquad w_{sup} = 0.034 \frac{lbf}{in}$

Amplified load (assumed as a uniform distribution)

$q := 60 \cdot (w_{rod} + w_{sup})$ $\qquad q = 4.68 \frac{lbf}{in}$

$Moment := \frac{q \cdot L^2}{2}$ $\qquad Moment = 2.629\, in \cdot lbf$

Bending stress at the root of the cantilever beam is

$\sigma := 6 \cdot \frac{Moment}{1 \cdot in \cdot t^2}$ $\qquad \sigma = 1.304 \times 10^3\, psi$

Shear stress at the root of the cantilever $\qquad \tau := q \cdot \frac{L}{t \cdot 1 \cdot in}$ $\qquad \tau = 45.098\, psi$

Large margins of safety are indicated by these stress results.

3.AI.9.5 Conclusion for TN Thoria Rod Canister

The Thoria rod canister is structurally adequate to withstand the specified normal and accident condition loads. All calculated safety margins are greater than zero.

3.AI.10 General Conclusion

The analysis of the TN damaged fuel canister and the TN Thoria rod canister have demonstrated that all structural safety margins are large. We have confirmed that the TN canisters have positive safety margins for the HI-STAR 100 govening design basis loads. Therefore, the loaded TN canisters from ComEd Dresden Unit#1 can safely be carried in the HI-STAR 100 System.

3.AI.11 List of Transnuclear Drawing Numbers

9317.1-120 - 2,3,4,5,6,7,8,9,10,11,13,14,15,17,18,19,20,21,22,23

9317.1-182- 1,2,3,4,5,6