

72-17

**Portland General
Electric**

Trojan Nuclear Plant
71760 Columbia River Hwy
Rainier OR 97048
(503) 556-3713

September 9, 1998

VPN-052-98

Trojan ISFSI
Docket 72-017

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Attention: T. J. Kobetz, Project Manager
NMSS, SFPO

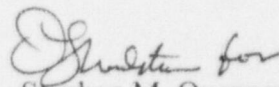
Dear Sir:

Supplementary Information for Trojan Independent Spent Fuel
Storage Installation (ISFSI) License Application, Transfer Station Analysis, Calculation TI-058

Enclosed with this letter are figures and tables identifying the nodes assigned for the Trojan ISFSI Transfer Station Analysis, TI-058, Revision 1. Please note that, due to the three dimensional aspect of the transfer station analysis, some nodes are difficult to read on the enclosed figures.

If you have any questions regarding this information, please contact Joel Westvold of my staff at (503) 556-6485.

Sincerely,


Stephen M. Quennoz
Trojan Site Executive

1/1

NFO6

Enclosures

cc: L. H. Thonus, NRC, NRR, w/o attachments
R. A. Scarano, NRC Region IV, w/o attachments
David Stewart-Smith, OOE

9809220266 980909
PDR ADCK 05000344
Y PDR

TROJAN ISFSI TRANSFER STATION

CALCULATION TI-058
REVISION 1

LIST ALL SELECTED NODES. DSYS= 0

NODE	X	Y	Z	THXY	THYZ	THZX
1	.00000	.00000	.00000	.00	.00	.00
2	15.570	15.570	36.500	.00	.00	.00
3	5.1900	5.1900	12.167	.00	.00	.00
4	10.380	10.380	24.333	.00	.00	.00
5	90.170	90.170	226.53	.00	.00	.00
6	22.352	22.352	53.775	.00	.00	.00
7	29.134	29.134	71.051	.00	.00	.00
8	35.915	35.915	88.326	.00	.00	.00
9	42.697	42.697	105.60	.00	.00	.00
10	49.479	49.479	122.88	.00	.00	.00
11	56.261	56.261	140.15	.00	.00	.00
12	63.043	63.043	157.43	.00	.00	.00
13	69.825	69.825	174.70	.00	.00	.00
14	76.606	76.606	191.98	.00	.00	.00
15	83.388	83.388	209.25	.00	.00	.00
16	143.48	143.48	334.71	.00	.00	.00
17	97.786	97.786	241.98	.00	.00	.00
18	105.40	105.40	257.44	.00	.00	.00
19	113.02	113.02	272.89	.00	.00	.00
20	120.63	120.63	288.35	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
21	128.25	128.25	303.80	.00	.00	.00
22	135.86	135.86	319.26	.00	.00	.00
23	205.44	61.970	152.27	.00	.00	.00
24	189.62	58.103	142.62	.00	.00	.00
25	173.80	54.237	132.98	.00	.00	.00
26	157.97	50.370	123.33	.00	.00	.00
27	142.15	46.503	113.68	.00	.00	.00
28	126.33	42.637	104.03	.00	.00	.00
29	110.51	38.770	94.385	.00	.00	.00
30	94.683	34.903	84.738	.00	.00	.00
31	78.860	31.037	75.090	.00	.00	.00
32	63.038	27.170	65.442	.00	.00	.00
33	47.215	23.303	55.795	.00	.00	.00
34	31.392	19.437	46.147	.00	.00	.00
35	122.46	81.960	202.95	.00	.00	.00
36	139.06	77.962	192.81	.00	.00	.00
37	155.65	73.964	182.68	.00	.00	.00
38	172.25	69.966	172.54	.00	.00	.00
39	188.84	65.968	162.41	.00	.00	.00
40	90.170	163.94	226.53	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
41	163.94	163.94	226.53	.00	.00	.00
42	127.06	163.94	226.53	.00	.00	.00
43	163.94	90.170	226.53	.00	.00	.00
44	163.94	127.06	226.53	.00	.00	.00
45	90.170	205.44	226.53	.00	.00	.00
46	90.170	184.69	226.53	.00	.00	.00
47	205.44	90.170	226.53	.00	.00	.00
48	184.69	90.170	226.53	.00	.00	.00
49	205.44	163.94	226.53	.00	.00	.00
50	177.77	163.94	226.53	.00	.00	.00
51	191.61	163.94	226.53	.00	.00	.00
52	163.94	205.44	226.53	.00	.00	.00
53	163.94	177.77	226.53	.00	.00	.00
54	163.94	191.61	226.53	.00	.00	.00
55	61.670	205.44	152.27	.00	.00	.00
56	19.412	31.392	46.147	.00	.00	.00
57	23.255	47.215	55.795	.00	.00	.00
58	27.095	63.038	65.442	.00	.00	.00

59	30.937	78.860	75.090	.00	.00	.00
60	34.778	94.682	84.737	.00	.00	.00
MODE	X	Y	Z	THXY	THYZ	THZX
61	38.620	110.50	94.385	.00	.00	.00
62	42.462	126.33	104.03	.00	.00	.00
63	46.303	142.15	113.68	.00	.00	.00
64	50.145	157.97	123.33	.00	.00	.00
65	53.987	173.80	132.98	.00	.00	.00
66	57.828	189.62	142.62	.00	.00	.00
67	143.48	205.44	334.71	.00	.00	.00
68	143.48	174.46	334.71	.00	.00	.00
69	205.44	143.48	334.71	.00	.00	.00
70	174.46	143.48	334.71	.00	.00	.00
71	90.170	122.46	226.53	.00	.00	.00
72	90.170	143.20	226.53	.00	.00	.00
73	122.46	90.170	226.53	.00	.00	.00
74	143.20	90.170	226.53	.00	.00	.00
75	81.960	122.46	202.95	.00	.00	.00
76	65.728	188.84	162.41	.00	.00	.00
77	69.786	172.25	172.54	.00	.00	.00
78	73.844	155.65	182.68	.00	.00	.00
79	77.902	139.06	192.81	.00	.00	.00
80	410.88	.00000	.00000	.00	.00	.00

81	395.31	15.570	36.500	.00	.00	.00
82	405.69	5.1900	12.167	.00	.00	.00
83	400.50	10.380	24.333	.00	.00	.00
84	320.71	90.170	226.53	.00	.00	.00
85	388.53	22.352	53.775	.00	.00	.00
86	381.75	29.134	71.051	.00	.00	.00
87	374.96	35.915	88.326	.00	.00	.00
88	368.18	42.697	105.60	.00	.00	.00
89	361.40	49.479	122.88	.00	.00	.00
90	354.62	56.261	140.15	.00	.00	.00
91	347.84	63.043	157.43	.00	.00	.00
92	341.06	69.825	174.70	.00	.00	.00
93	334.27	76.606	191.98	.00	.00	.00
94	327.49	83.388	209.25	.00	.00	.00
95	267.40	143.48	334.71	.00	.00	.00
96	313.09	97.786	241.98	.00	.00	.00
97	305.48	105.40	257.44	.00	.00	.00
98	297.86	113.02	272.89	.00	.00	.00
99	290.25	120.63	288.35	.00	.00	.00
100	282.63	128.25	303.80	.00	.00	.00

101	275.02	135.86	319.26	.00	.00	.00
102	221.26	58.103	142.62	.00	.00	.00
103	237.09	54.237	132.98	.00	.00	.00
104	252.91	50.370	123.33	.00	.00	.00
105	268.73	46.503	113.68	.00	.00	.00
106	284.55	42.637	104.03	.00	.00	.00
107	300.38	38.770	94.385	.00	.00	.00
108	316.20	34.903	84.738	.00	.00	.00
109	332.02	31.037	75.090	.00	.00	.00
110	347.84	27.170	65.442	.00	.00	.00
111	363.67	23.303	55.795	.00	.00	.00
112	379.49	19.437	46.147	.00	.00	.00
113	288.42	81.960	202.95	.00	.00	.00
114	271.82	77.962	192.81	.00	.00	.00
115	255.23	73.964	182.68	.00	.00	.00
116	238.63	69.966	172.54	.00	.00	.00
117	222.04	65.968	162.41	.00	.00	.00
118	320.71	163.94	226.53	.00	.00	.00

119	246.94	163.94	226.53	.00	.00	.00
120	283.82	163.94	226.53	.00	.00	.00
NODE	X	Y	Z	THXY	THYZ	THZX
121	246.94	90.170	226.53	.00	.00	.00
122	246.94	127.06	226.53	.00	.00	.00
123	320.71	205.44	226.53	.00	.00	.00
124	320.71	184.69	226.53	.00	.00	.00
125	226.19	90.170	226.53	.00	.00	.00
126	233.11	163.94	226.53	.00	.00	.00
127	219.27	163.94	226.53	.00	.00	.00
128	246.94	205.44	226.53	.00	.00	.00
129	246.94	177.77	226.53	.00	.00	.00
130	246.94	191.61	226.53	.00	.00	.00
131	267.40	205.44	334.71	.00	.00	.00
132	267.40	174.46	334.71	.00	.00	.00
133	236.42	143.48	334.71	.00	.00	.00
134	320.71	122.46	226.53	.00	.00	.00
135	320.71	143.20	226.53	.00	.00	.00
136	288.42	90.170	226.53	.00	.00	.00
137	267.68	90.170	226.53	.00	.00	.00
138	.00000	410.88	.00000	.00	.00	.00
139	15.570	395.31	36.500	.00	.00	.00
140	5.1900	405.69	12.167	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
141	10.380	400.50	24.333	.00	.00	.00
142	90.170	320.71	226.53	.00	.00	.00
143	22.352	388.53	53.775	.00	.00	.00
144	29.134	381.75	71.051	.00	.00	.00
145	35.915	374.96	88.326	.00	.00	.00
146	42.697	368.18	105.60	.00	.00	.00
147	49.479	361.40	122.88	.00	.00	.00
148	56.261	354.62	140.15	.00	.00	.00
149	63.043	347.84	157.43	.00	.00	.00
150	69.825	341.06	174.70	.00	.00	.00
151	76.606	334.27	191.98	.00	.00	.00
152	83.388	327.49	209.25	.00	.00	.00
153	143.48	267.40	334.71	.00	.00	.00
154	97.786	313.09	241.98	.00	.00	.00
155	105.40	305.48	257.44	.00	.00	.00
156	113.02	297.86	272.89	.00	.00	.00
157	120.63	290.25	288.35	.00	.00	.00
158	128.25	282.63	303.80	.00	.00	.00
159	135.86	275.02	319.26	.00	.00	.00
160	205.44	348.91	152.27	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
161	189.62	352.78	142.62	.00	.00	.00
162	173.80	356.64	132.98	.00	.00	.00
163	157.97	360.51	123.33	.00	.00	.00
164	142.15	364.38	113.68	.00	.00	.00
165	126.33	368.24	104.03	.00	.00	.00
166	110.51	372.11	94.385	.00	.00	.00
167	94.683	375.98	84.738	.00	.00	.00
168	78.860	379.84	75.090	.00	.00	.00
169	63.038	383.71	65.442	.00	.00	.00
170	47.215	387.58	55.795	.00	.00	.00
171	31.392	391.44	46.147	.00	.00	.00
172	122.46	328.92	202.95	.00	.00	.00
173	139.06	332.92	192.81	.00	.00	.00
174	155.65	336.92	182.68	.00	.00	.00
175	172.25	340.91	172.54	.00	.00	.00
176	188.84	344.91	162.41	.00	.00	.00
177	90.170	246.94	226.53	.00	.00	.00
178	163.94	246.94	226.53	.00	.00	.00

179	127.06	246.94	226.53	.00	.00	.00
180	163.94	320.71	226.53	.00	.00	.00
NODE	X	Y	Z	THXY	THYZ	THZX
181	163.94	283.82	226.53	.00	.00	.00
182	90.170	226.19	226.53	.00	.00	.00
183	205.44	320.71	226.53	.00	.00	.00
184	184.69	320.71	226.53	.00	.00	.00
185	205.44	246.94	226.53	.00	.00	.00
186	177.77	246.94	226.53	.00	.00	.00
187	191.61	246.94	226.53	.00	.00	.00
188	163.94	233.11	226.53	.00	.00	.00
189	163.94	219.27	226.53	.00	.00	.00
190	19.412	379.49	46.147	.00	.00	.00
191	23.253	363.67	55.795	.00	.00	.00
192	27.095	347.84	65.442	.00	.00	.00
193	30.937	332.02	75.090	.00	.00	.00
194	34.778	316.20	84.737	.00	.00	.00
195	38.620	300.38	94.385	.00	.00	.00
196	42.462	284.55	104.03	.00	.00	.00
197	46.303	268.73	113.68	.00	.00	.00
198	50.145	252.91	123.33	.00	.00	.00
199	53.987	237.09	132.98	.00	.00	.00
200	57.828	221.26	142.62	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
201	143.48	236.42	334.71	.00	.00	.00
202	205.44	267.40	334.71	.00	.00	.00
203	174.46	267.40	334.71	.00	.00	.00
204	90.170	288.42	226.53	.00	.00	.00
205	90.170	267.68	226.53	.00	.00	.00
206	122.46	320.71	226.53	.00	.00	.00
207	143.20	320.71	226.53	.00	.00	.00
208	81.960	288.42	202.95	.00	.00	.00
209	65.728	222.04	162.41	.00	.00	.00
210	69.786	238.63	172.54	.00	.00	.00
211	73.844	255.23	182.68	.00	.00	.00
212	77.902	271.82	192.81	.00	.00	.00
213	410.88	410.88	.00000	.00	.00	.00
214	395.31	395.31	36.500	.00	.00	.00
215	405.69	405.69	12.167	.00	.00	.00
216	400.50	400.50	24.333	.00	.00	.00
217	320.71	320.71	226.53	.00	.00	.00
218	388.53	388.53	53.775	.00	.00	.00
219	381.75	381.75	71.051	.00	.00	.00
220	374.96	374.96	88.326	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
221	368.18	368.18	105.60	.00	.00	.00
222	361.40	361.40	122.88	.00	.00	.00
223	354.62	354.62	140.15	.00	.00	.00
224	347.84	347.84	157.43	.00	.00	.00
225	341.06	341.06	174.70	.00	.00	.00
226	334.27	334.27	191.98	.00	.00	.00
227	327.49	327.49	209.25	.00	.00	.00
228	267.40	267.40	334.71	.00	.00	.00
229	313.09	313.09	241.98	.00	.00	.00
230	305.48	305.48	257.44	.00	.00	.00
231	297.86	297.86	272.89	.00	.00	.00
232	290.25	290.25	288.35	.00	.00	.00
233	282.63	282.63	303.80	.00	.00	.00
234	275.02	275.02	319.26	.00	.00	.00
235	221.26	352.78	142.62	.00	.00	.00
236	237.09	356.64	132.98	.00	.00	.00
237	252.91	360.51	123.33	.00	.00	.00
238	268.73	364.38	113.68	.00	.00	.00

239	284.55	368.24	104.03	.00	.00	.00
240	300.38	372.11	94.385	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
241	316.20	375.98	84.738	.00	.00	.00
242	332.02	379.84	75.090	.00	.00	.00
243	347.84	383.71	65.442	.00	.00	.00
244	363.67	387.58	55.795	.00	.00	.00
245	379.49	391.44	46.147	.00	.00	.00
246	288.42	328.92	202.95	.00	.00	.00
247	271.82	332.92	192.81	.00	.00	.00
248	255.23	336.92	182.68	.00	.00	.00
249	238.63	340.91	172.54	.00	.00	.00
250	222.04	344.91	162.41	.00	.00	.00
251	320.71	246.94	226.53	.00	.00	.00
252	246.94	246.94	226.53	.00	.00	.00
253	283.82	246.94	226.53	.00	.00	.00
254	246.94	320.71	226.53	.00	.00	.00
255	246.94	283.82	226.53	.00	.00	.00
256	320.71	226.19	226.53	.00	.00	.00
257	226.19	320.71	226.53	.00	.00	.00
258	233.11	246.94	226.53	.00	.00	.00
259	219.27	246.94	226.53	.00	.00	.00
260	246.94	233.11	226.53	.00	.00	.00

NODE	X	Y	Z	THXY	THYZ	THZX
261	246.94	219.27	226.53	.00	.00	.00
262	267.40	236.42	334.71	.00	.00	.00
263	236.42	267.40	334.71	.00	.00	.00
264	320.71	288.42	226.53	.00	.00	.00
265	320.71	267.68	226.53	.00	.00	.00
266	288.42	320.71	226.53	.00	.00	.00
267	267.68	320.71	226.53	.00	.00	.00
401	205.44	205.44	.00000	.00	.00	.00
405	205.44	205.44	336.20	.00	.00	.00
442	163.94	163.94	226.53	.00	.00	.00
520	246.94	163.94	226.53	.00	.00	.00
579	163.94	246.94	226.53	.00	.00	.00
653	246.94	246.94	226.53	.00	.00	.00

LIST MATERIALS 1 TO 9 BY 1
PROPERTY= ALL

PROPERTY TABLE EX MAT= 1 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .29000E+08

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 2 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .29000E+08

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 3 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
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PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 4 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
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PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 5 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
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PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 6 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .30000E+09

PROPERTY TABLE EX MAT= 7 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .29000E+08

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 8 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .29000E+08

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA
.00000 .73499E-03

PROPERTY TABLE EX MAT= 9 NUM. POINTS= 1
TEMPERATURE DATA TEMPERATURE DATA TEMPERATURE DATA

-00000

.290002+08

LIST REAL SETS 1 TO 41 BY 1

REAL CONSTANT SET	1	ITEMS	1 TO	6		
67.600	940.00	15000.	35.900	16.470	.00000	
REAL CONSTANT SET	2	ITEMS	1 TO	6		
30.600	259.00	3100.0	24.060	12.750	.00000	
REAL CONSTANT SET	3	ITEMS	1 TO	6		
30.600	3100.0	259.00	12.750	24.060	.00000	
REAL CONSTANT SET	4	ITEMS	1 TO	6		
41.850	716.00	3575.0	24.060	12.750	.00000	
REAL CONSTANT SET	5	ITEMS	1 TO	6		
8.4000	72.500	72.500	8.6250	8.6250	.00000	
REAL CONSTANT SET	6	ITEMS	1 TO	6		
500.00	.00000	.00000	.00000	.00000	.00000	
REAL CONSTANT SET	7	ITEMS	1 TO	6		
77.140	3483.0	8222.0	24.060	27.540	.00000	
REAL CONSTANT SET	8	ITEMS	1 TO	6		
80.630	407.00	4765.0	14.830	7.3100	.00000	
REAL CONSTANT SET	8	ITEMS	7 TO	12		
80.630	407.00	4765.0	14.830	7.3100	.00000	
REAL CONSTANT SET	8	ITEMS	13 TO	18		
.00000	-.44000	2.8000	.00000	-.44000	2.8000	
REAL CONSTANT SET	8	ITEMS	19 TO	24		
.00000	.00000	9.2300	5.4400	9.2300	5.4400	
REAL CONSTANT SET	9	ITEMS	1 TO	6		
50000.	.50000E+06	.50000E+06	8.0000	8.0000	.00000	
REAL CONSTANT SET	40	ITEMS	1 TO	6		
556.42	556.42	556.42	.19760E+10	.19760E+10	.76900E+06	
REAL CONSTANT SET	41	ITEMS	1 TO	6		
13.038	13.038	13.038	.00000	.00000	.00000	

LIST ALL SELECTED ELEMENTS. (LIST NODES)

ELEM	MAT	TYP	REL	ESY	NODES		
1	1	1	1	0	1	3	401
2	1	1	1	0	3	4	401
3	1	1	1	0	4	2	401
4	1	1	1	0	2	6	401
5	1	1	1	0	6	7	401
6	1	1	1	0	7	8	401
7	1	1	1	0	8	9	401
8	1	1	1	0	9	10	401
9	1	1	1	0	10	11	401
10	1	1	1	0	11	12	401
11	1	1	1	0	12	13	401
12	1	1	1	0	13	14	401
13	1	1	1	0	14	15	401
14	1	1	1	0	15	5	401
15	1	1	1	0	5	17	401
16	1	1	1	0	17	18	401
17	1	1	1	0	18	19	401
18	1	1	1	0	19	20	401
19	1	1	1	0	20	21	401
20	1	1	1	0	21	22	401

ELEM	MAT	TYP	REL	ESY	NODES		
21	1	1	1	0	22	16	401
22	5	5	5	0	23	24	0
23	5	5	5	0	24	25	0
24	5	5	5	0	25	26	0
25	5	5	5	0	26	27	0
26	5	5	5	0	27	28	0
27	5	5	5	0	28	29	0
28	5	5	5	0	29	30	0
29	5	5	5	0	30	31	0
30	5	5	5	0	31	32	0
31	5	5	5	0	32	33	0
32	5	5	5	0	33	34	0
33	5	5	5	0	34	2	0
34	5	5	5	0	35	36	0
35	5	5	5	0	36	37	0
36	5	5	5	0	37	38	0
37	5	5	5	0	38	39	0
38	5	5	5	0	39	23	0
39	2	2	2	0	40	42	0
40	2	2	2	0	42	41	0

ELEM	MAT	TYP	REL	ESY	NODES		
41	2	2	2	0	43	44	0
42	2	2	2	0	44	41	0
43	2	2	2	0	40	46	0
44	2	2	2	0	46	45	0
45	2	2	2	0	43	48	0
46	2	2	2	0	48	47	0
47	8	8	8	0	41	50	0
48	8	8	8	0	50	51	0
49	8	8	8	0	51	49	0
50	8	8	8	0	41	53	0
51	8	8	8	0	53	54	0
52	8	8	8	0	54	52	0
53	5	5	5	0	2	56	0
54	5	5	5	0	56	57	0
55	5	5	5	0	57	58	0

56	5	5	5	0	58	59	0
57	5	5	5	0	59	60	0
58	5	5	5	0	60	61	0
59	5	5	5	0	61	62	0
60	5	5	5	0	62	63	0

ELEM MAT TYP REL ESY					NODES		
61	5	5	5	0	63	64	0
62	5	5	5	0	64	65	0
63	5	5	5	0	65	66	0
64	5	5	5	0	66	55	0
65	3	3	3	0	16	68	0
66	3	3	3	0	68	67	0
67	3	3	3	0	16	70	0
68	3	3	3	0	70	69	0
69	2	2	2	0	40	72	0
70	2	2	2	0	72	71	0
71	7	7	7	0	5	71	0
72	7	7	7	0	5	73	0
73	2	2	2	0	43	74	0
74	2	2	2	0	74	73	0
75	5	5	5	0	55	76	0
76	5	5	5	0	76	77	0
77	5	5	5	0	77	78	0
78	5	5	5	0	78	79	0
79	5	5	5	0	79	75	0
80	7	7	7	0	5	75	0

ELEM MAT TYP REL ESY					NODES		
81	7	7	7	0	5	35	0
82	1	1	1	0	80	82	401
83	1	1	1	0	82	83	401
84	1	1	1	0	83	81	401
85	1	1	1	0	81	85	401
86	1	1	1	0	85	86	401
87	1	1	1	0	86	87	401
88	1	1	1	0	87	88	401
89	1	1	1	0	88	89	401
90	1	1	1	0	89	90	401
91	1	1	1	0	90	91	401
92	1	1	1	0	91	92	401
93	1	1	1	0	92	93	401
94	1	1	1	0	93	94	401
95	1	1	1	0	94	84	401
96	1	1	1	0	84	96	401
97	1	1	1	0	96	97	401
98	1	1	1	0	97	98	401
99	1	1	1	0	98	99	401
100	1	1	1	0	99	100	401

ELEM MAT TYP REL ESY					NODES		
101	1	1	1	0	100	101	401
102	1	1	1	0	101	95	401
103	5	5	5	0	23	102	0
104	5	5	5	0	102	103	0
105	5	5	5	0	103	104	0
106	5	5	5	0	104	105	0
107	5	5	5	0	105	106	0
108	5	5	5	0	106	107	0
109	5	5	5	0	107	108	0
110	5	5	5	0	108	109	0
111	5	5	5	0	109	110	0
112	5	5	5	0	110	111	0

113	5	5	5	0	111	112	0
114	5	5	5	0	112	81	0
115	5	5	5	0	113	114	0
116	5	5	5	0	114	115	0
117	5	5	5	0	115	116	0
118	5	5	5	0	116	117	0
119	5	5	5	0	117	23	0
120	2	2	2	0	118	120	0

ELEM	MAT	TYP	REL	ESY	NODES		
121	2	2	2	0	120	119	0
122	2	2	2	0	121	122	0
123	2	2	2	0	122	119	0
124	2	2	2	0	118	124	0
125	2	2	2	0	124	123	0
126	2	2	2	0	121	125	0
127	2	2	2	0	125	47	0
128	8	8	8	0	119	126	0
129	8	8	8	0	126	127	0
130	8	8	8	0	127	49	0
131	8	8	8	0	119	129	0
132	8	8	8	0	129	130	0
133	8	8	8	0	130	128	0
134	3	3	3	0	95	132	0
135	3	3	3	0	132	131	0
136	3	3	3	0	95	133	0
137	3	3	3	0	133	69	0
138	2	2	2	0	118	135	0
139	2	2	2	0	135	134	0
140	7	7	7	0	84	134	0

ELEM	MAT	TYP	REL	ESY	NODES		
141	7	7	7	0	84	136	0
142	2	2	2	0	121	137	0
143	2	2	2	0	137	136	0
144	7	7	7	0	84	113	0
145	1	1	1	0	138	140	401
146	1	1	1	0	140	141	401
147	1	1	1	0	141	129	401
148	1	1	1	0	139	143	401
149	1	1	1	0	143	144	401
150	1	1	1	0	144	145	401
151	1	1	1	0	145	146	401
152	1	1	1	0	146	147	401
153	1	1	1	0	147	148	401
154	1	1	1	0	148	149	401
155	1	1	1	0	149	150	401
156	1	1	1	0	150	151	401
157	1	1	1	0	151	152	401
158	1	1	1	0	152	142	401
159	1	1	1	0	142	154	401
160	1	1	1	0	154	155	401

ELEM	MAT	TYP	REL	ESY	NODES		
161	1	1	1	0	155	156	401
162	1	1	1	0	156	157	401
163	1	1	1	0	157	158	401
164	1	1	1	0	158	159	401
165	1	1	1	0	159	153	401
166	5	5	5	0	160	161	0
167	5	5	5	0	161	162	0
168	5	5	5	0	162	163	0
169	5	5	5	0	163	164	0

170	5	5	5	0	164	165	0
171	5	5	5	0	165	166	0
172	5	5	5	0	166	167	0
173	5	5	5	0	167	168	0
174	5	5	5	0	168	169	0
175	5	5	5	0	169	170	0
176	5	5	5	0	170	171	0
177	5	5	5	0	171	139	0
178	5	5	5	0	172	173	0
179	5	5	5	0	173	174	0
180	5	5	5	0	174	175	0

ELEM MAT TYP REL ESY					NODES		
181	5	5	5	0	175	176	0
182	5	5	5	0	176	160	0
183	2	2	2	0	177	179	0
184	2	2	2	0	179	178	0
185	2	2	2	0	180	181	0
186	2	2	2	0	181	178	0
187	2	2	2	0	177	182	0
188	2	2	2	0	182	45	0
189	2	2	2	0	180	184	0
190	2	2	2	0	184	183	0
191	8	8	8	0	178	186	0
192	8	8	8	0	186	187	0
193	8	8	8	0	187	185	0
194	8	8	8	0	178	188	0
195	8	8	8	0	188	189	0
196	8	8	8	0	188	52	0
197	5	5	5	0	139	190	0
198	5	5	5	0	190	191	0
199	5	5	5	0	191	192	0
200	5	5	5	0	192	193	0

ELEM MAT TYP REL ESY					NODES		
201	5	5	5	0	193	194	0
202	5	5	5	0	194	195	0
203	5	5	5	0	195	196	0
204	5	5	5	0	196	197	0
205	5	5	5	0	197	198	0
206	5	5	5	0	198	199	0
207	5	5	5	0	199	200	0
208	5	5	5	0	200	55	0
209	3	3	3	0	153	201	0
210	3	3	3	0	201	67	0
211	3	3	3	0	153	203	0
212	3	3	3	0	203	202	0
213	2	2	2	0	177	205	0
214	2	2	2	0	205	204	0
215	7	7	7	0	142	204	0
216	7	7	7	0	142	206	0
217	2	2	2	0	180	207	0
218	2	2	2	0	207	206	0
219	5	5	5	0	55	209	0
220	5	5	5	0	209	210	0

ELEM MAT TYP REL ESY					NODES		
221	5	5	5	0	210	211	0
222	5	5	5	0	211	212	0
223	5	5	5	0	212	208	0
224	7	7	7	0	142	208	0
225	7	7	7	0	142	172	0
226	1	1	1	0	213	215	401

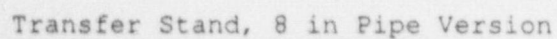
227	1	1	1	0	215	216	401
228	1	1	1	0	216	214	401
229	1	1	1	0	214	218	401
230	1	1	1	0	218	219	401
231	1	1	1	0	219	220	401
232	1	1	1	0	220	221	401
233	1	1	1	0	221	222	401
234	1	1	1	0	222	223	401
235	1	1	1	0	223	224	401
236	1	1	1	0	224	225	401
237	1	1	1	0	225	226	401
238	1	1	1	0	226	227	401
239	1	1	1	0	227	217	401
240	1	1	1	0	217	229	401

ELEM	MAT	TYP	REL	ESY	NODES		
241	1	1	1	0	229	230	401
242	1	1	1	0	230	231	401
243	1	1	1	0	231	232	401
244	1	1	1	0	232	233	401
245	1	1	1	0	233	234	401
246	1	1	1	0	234	228	401
247	5	5	5	0	160	235	0
248	5	5	5	0	235	236	0
249	5	5	5	0	236	237	0
250	5	5	5	0	237	238	0
251	5	5	5	0	238	239	0
252	5	5	5	0	239	240	0
253	5	5	5	0	240	241	0
254	5	5	5	0	241	242	0
255	5	5	5	0	242	243	0
256	5	5	5	0	243	244	0
257	5	5	5	0	244	245	0
258	5	5	5	0	245	214	0
259	5	5	5	0	246	247	0
260	5	5	5	0	247	248	0

ELEM	MAT	TYP	REL	ESY	NODES		
261	5	5	5	0	248	249	0
262	5	5	5	0	249	250	0
263	5	5	5	0	250	160	0
264	2	2	2	0	251	253	0
265	2	2	2	0	253	252	0
266	2	2	2	0	254	255	0
267	2	2	2	0	255	252	0
268	2	2	2	0	251	256	0
269	2	2	2	0	256	123	0
270	2	2	2	0	254	257	0
271	2	2	2	0	257	183	0
272	8	8	8	0	252	258	0
273	8	8	8	0	258	259	0
274	8	8	8	0	259	185	0
275	8	8	8	0	252	260	0
276	8	8	8	0	260	261	0
277	8	8	8	0	261	128	0
278	3	3	3	0	228	262	0
279	3	3	3	0	262	131	0
280	3	3	3	0	228	263	0

ELEM	MAT	TYP	REL	ESY	NODES		
281	3	3	3	0	263	202	0
282	2	2	2	0	251	265	0
283	2	2	2	0	265	264	0

284	7	7	7	0	217	264	0
285	7	7	7	0	217	266	0
286	2	2	2	0	254	267	0
287	2	2	2	0	267	266	0
288	7	7	7	0	217	246	0
289	9	9	9	0	442	405	0
290	9	9	9	0	520	405	0
291	9	9	9	0	579	405	0
292	9	9	9	0	653	405	0
293	9	40	40	0	405		
294	9	41	41	0	442		
295	9	41	41	0	520		
296	9	41	41	0	579		
297	9	41	41	0	653		
298	6	6	6	0	131	405	
299	6	6	6	0	202	405	



ANSYS 5.3
SEP 1 1998
21:35:33
ELEMENTS
TYPE NUM

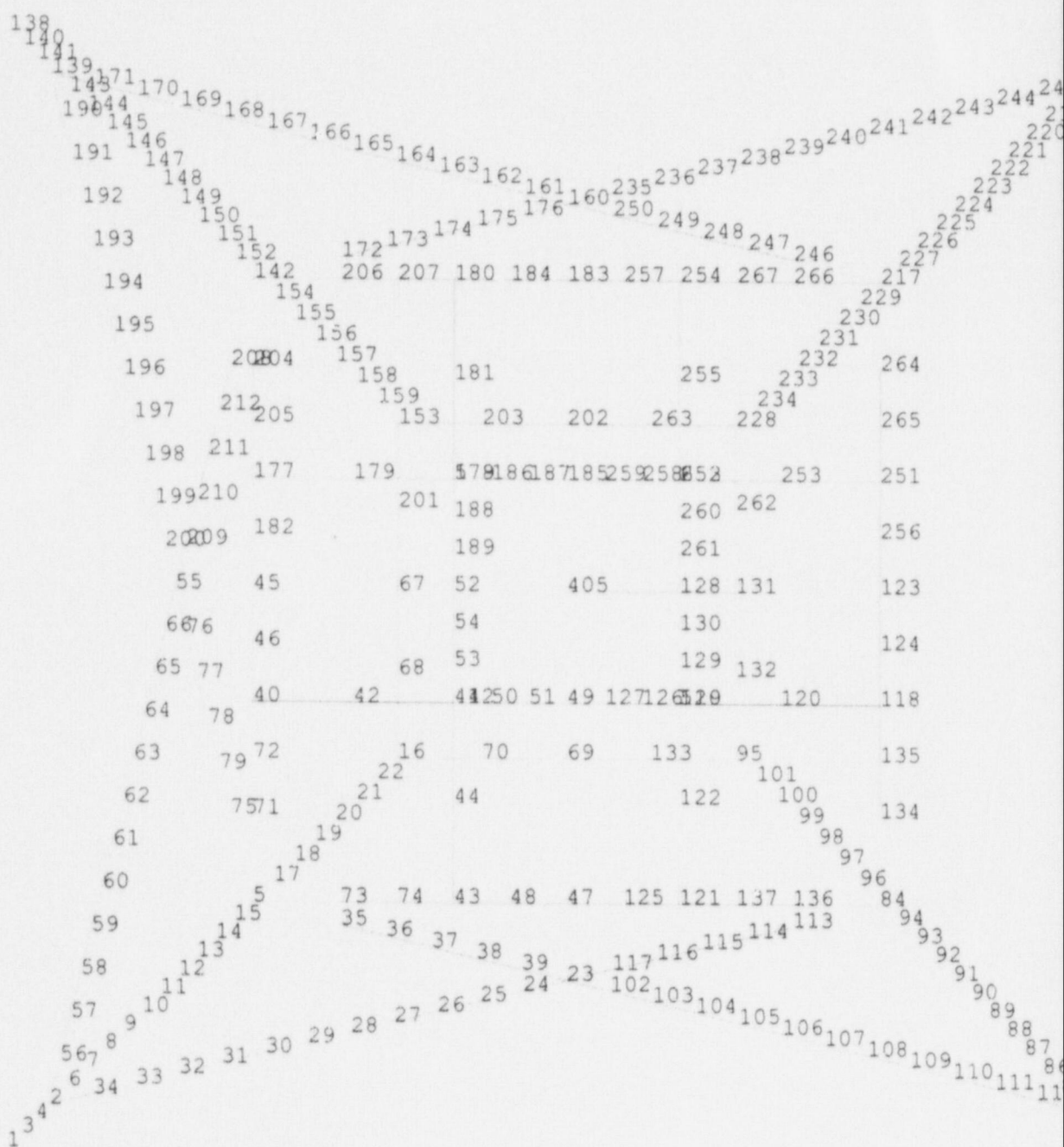
XV =-.3308
YV =-.9164
ZV =.2254
DIST=293.398
XF =205.44
YF =205.44
ZF =168.1
A-ZS=56.4
Z-BUFFER

APERTURE
CARD

Also Available on
Aperture Card

2
91
90
89
88
87
86
09 110 111 85
112 81
83
82
80

9809220266-01



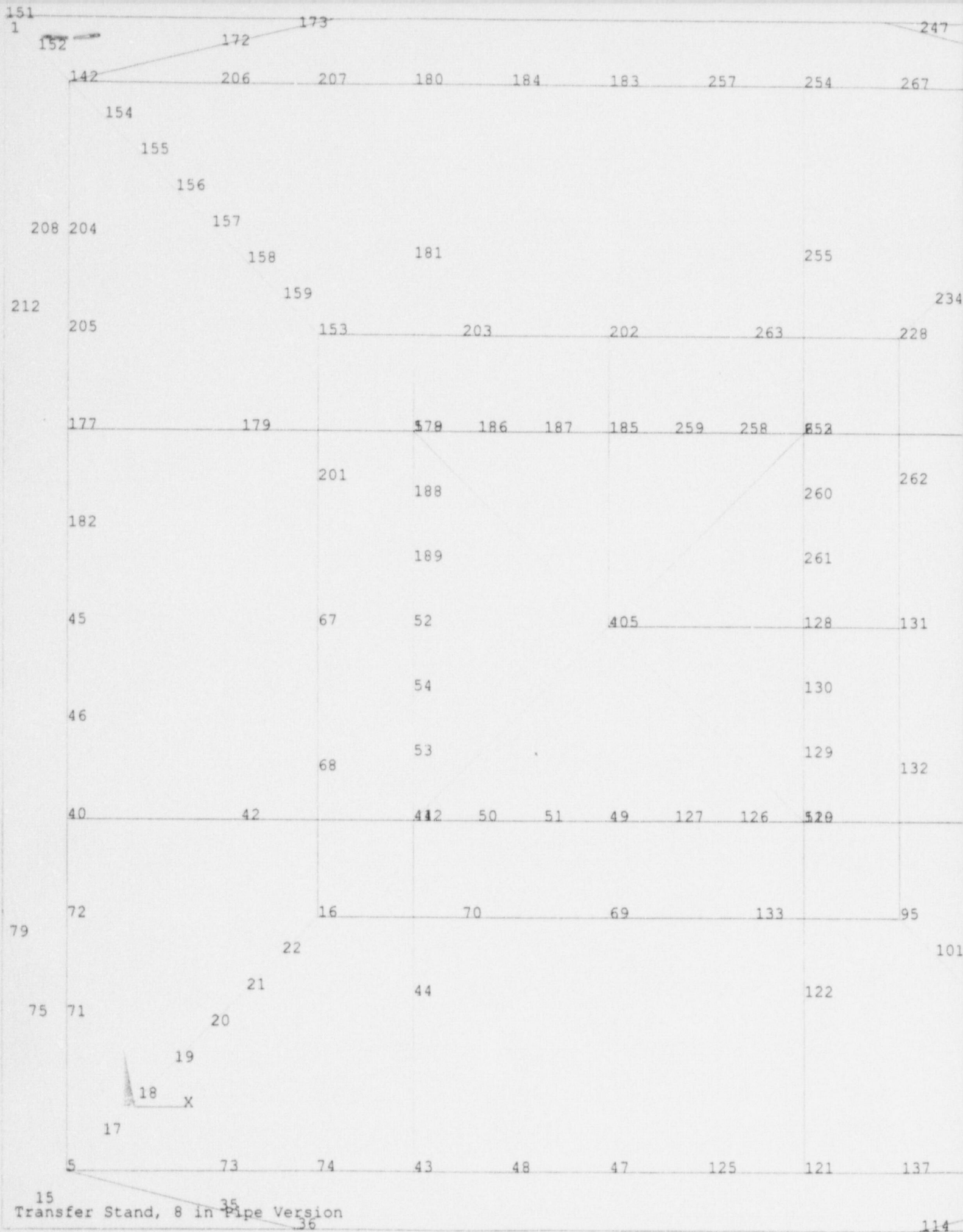
ANSYS 5.3
SEP 1 1998
21:30:59
ELEMENTS
TYPE NUM

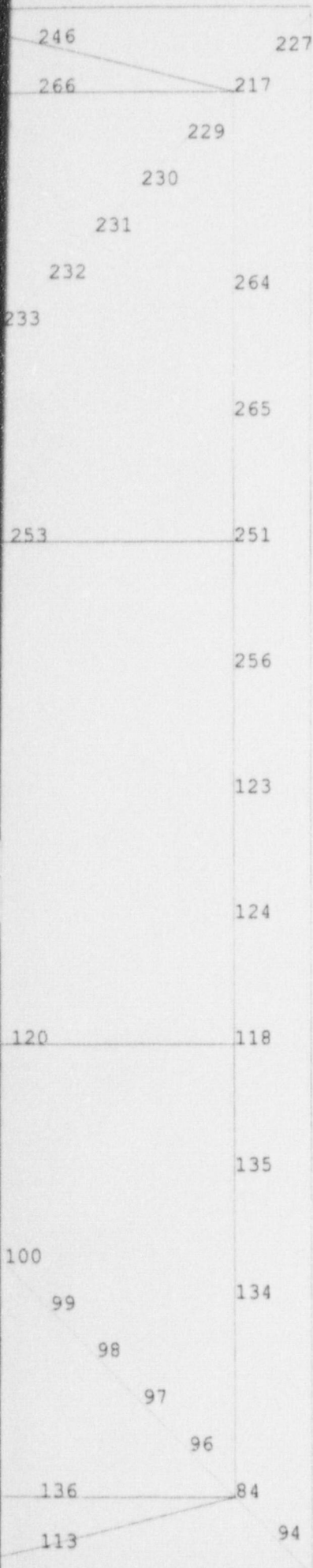
ZV =1
*DIST=315.908
*XF =201.3
*YF =205.4
*ZF =141.2
Z-BUFFER

APERTURE
CARD

Also Available on
Aperture Card

9809220266-02





ANSYS 5.3
SEP 1 1998
21:32:26
ELEMENTS
TYPE NUM

ZV =1
*DIST=128.433
*XF =204.951
*YF =206.292
*ZF =141.2
Z-BUFFER

**APERTURE
CARD**

Also Available on
Aperture Card

9809220266-03

138

140

141

139

143

171

170

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168

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208 204

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212

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159

153

203

198

211

177

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18

199

210

201

188

200 209

182

189

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67

52

66 76

46

54

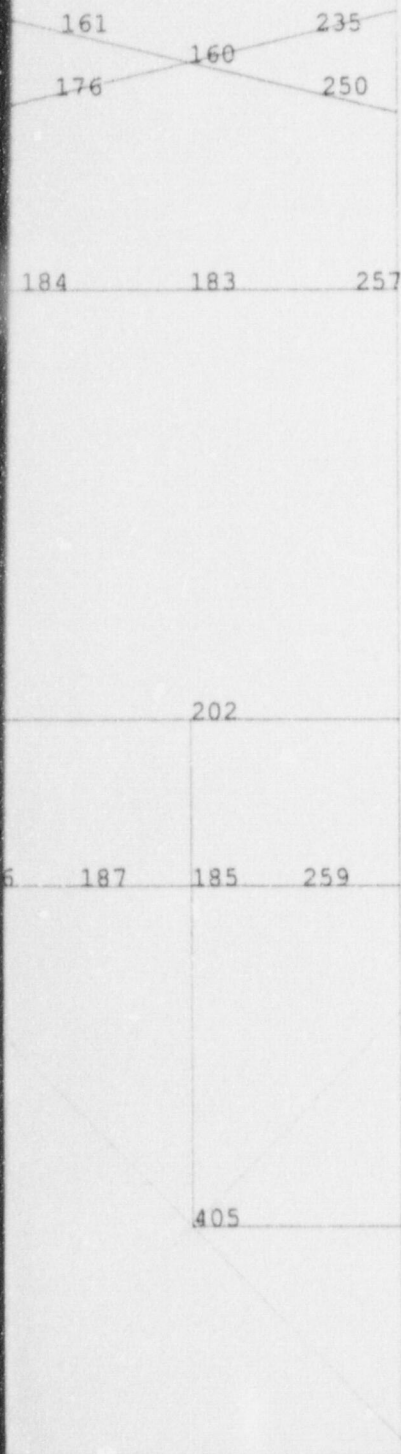
53

X

Transfer Stand, 8 in Pipe Version

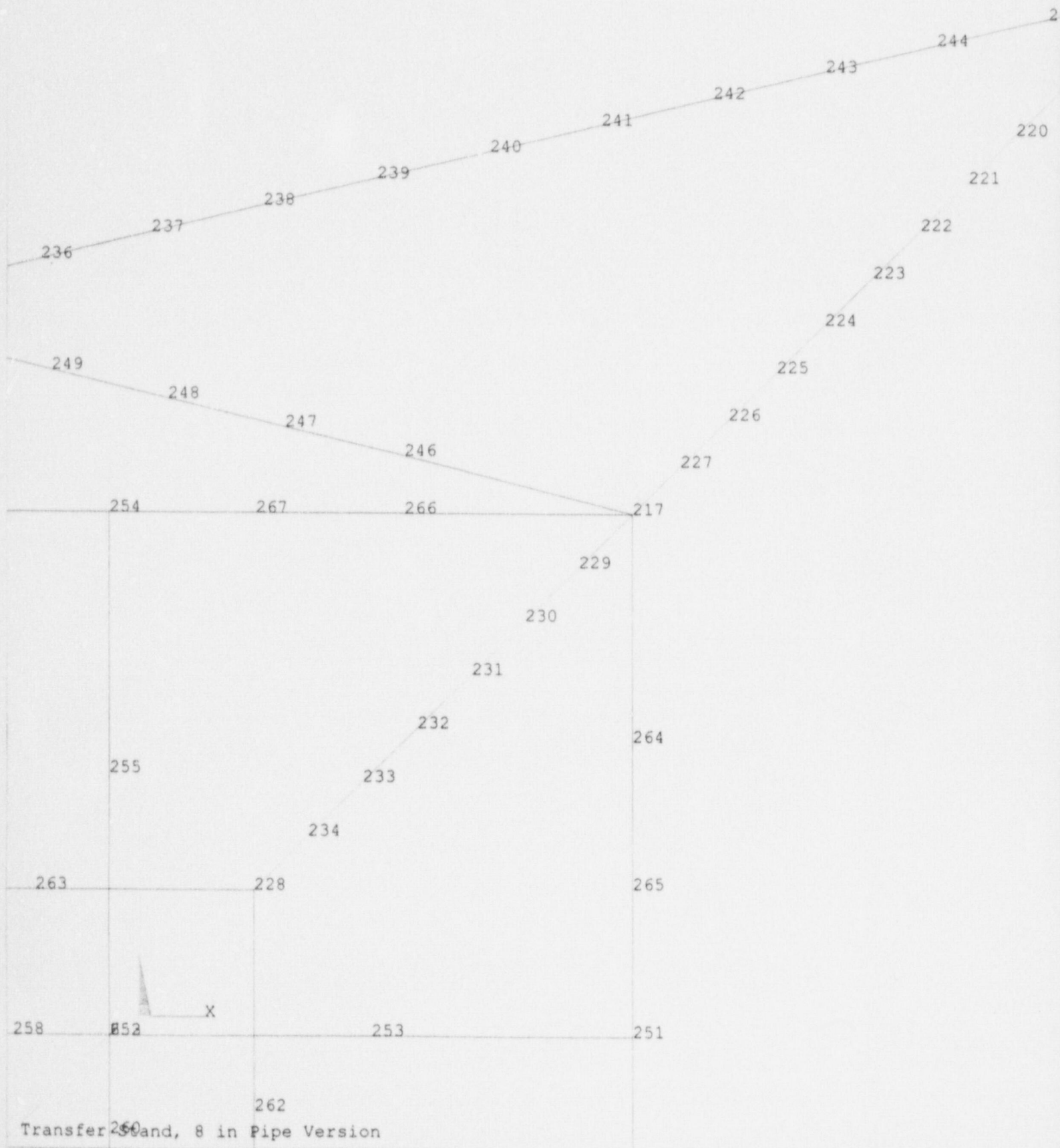
ANSYS 5.3
SEP 1 1998
21:33:09
ELEMENTS
TYPE NUM

ZV =1
*DIST=122.141
*XF =109.3
*YF =299.4
*ZF =141.2
Z-BUFFER



**APERTURE
CARD**
Also Available on
Aperture Card

9809220266-04



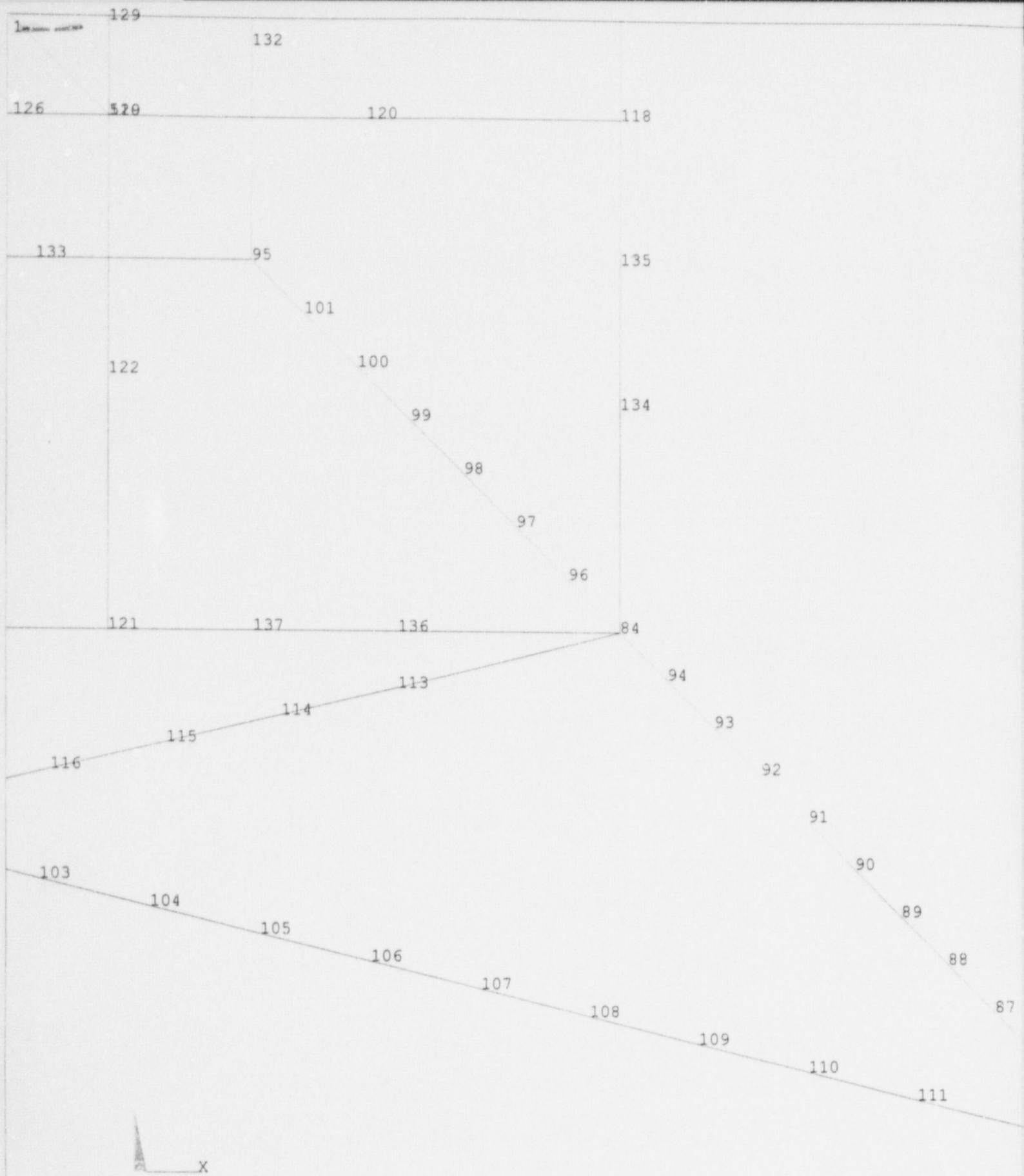
ANSYS 5.3
SEP 1 1998
21:33:31
ELEMENTS
TYPE NUM

ZV =1
*DIST=93.793
*XF =326.146
*YF =324.642
*ZF =141.2
Z-BUFFER

APERTURE
CARD

Also Available on
Aperture Card

9809220266-05



Transfer Stand, 8 in Pipe Version

ANSYS 5.3
SEP 1 1998
21:33:47
ELEMENTS
TYPE NUM

ZV =1
*DIST=92.111
*XF =324.417
*YF =86.26
*ZF =141.2
Z-BUFFER

**APERTURE
CARD**

Also Available on
Aperture Card

86
85
112
81
83
82
80

9809220246-06



Transfer Stand, 8 in Pipe Version

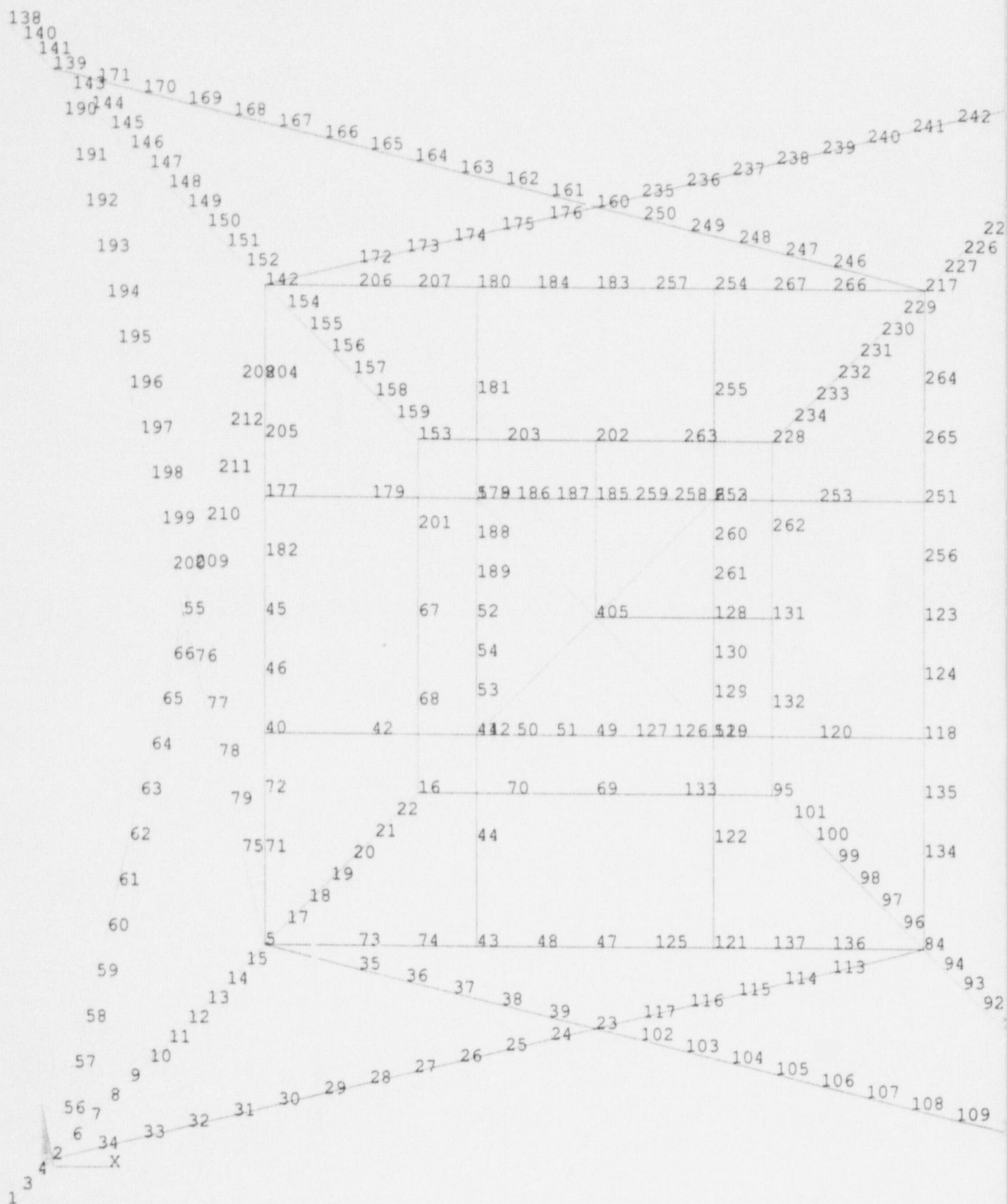
ANSYS 5.3
SEP 1 1998
21:34:47
ELEMENTS
TYPE NUM

ZV =1
*DIST=125.385
*XF =84.224
*YF =88.965
*ZF =141.2
Z-BUFFER

APERTURE
CARD

Also Available on
Aperture Card

9809220246-07



ANSYS 5.3
SEP 1 1998
21:34:58
ELEMENTS
TYPE NUM

ZV =1
*DIST=241.67
*XF =204.951
*YF =206.292
*ZF =141.2
Z-BUFFER

APERTURE
CARD

Also Available on
Aperture Card

9809220266-08