

## *Certificate of Successful Test Completion*

Item Tested: Two Story EPS Foam House Structure  
Manufacturer: Prostruct  
Customer: FAS  
Trentec Test Plan No.: 4S045.0 Rev.0  
Date of Test: 01/19/05

Item Description: The test specimen was a two story, 12 ft x 12 ft x 16 ft structure consisting of 6 in wall and 8 in floor and roof ThermaSAVE building panels. The interior and exterior panel skins were 7/16 in Maxi Panel fiber cement board. The panels were connected to each other using 4 inch splines of 7/16 in Maxi Panel fiber cement board using 1-1/4 in #6 screws with 6 in on center spacing. The top and bottom plates were Perma Deck plastic 2 in x 6 in plates for the walls and 2 in x 8 in plates for the floor and roof. Plates were attached with 2 in coarse thread screws with 6 in on center spacing. 10 in panel fasteners were used to connect floor and roof panels with 12 in on center spacing. The panel core was 1 pcf density expanded polystyrene foam. The test specimen was constructed according to the requirements in HSN, Inc. ICC Report 2406. The structure was mounted to a foundation of 2 in x 6 in wood joists inside a double 2 in x 6 in frame. The joists were mounted 16 in on center spacing. 1/2 in OSB was nailed to the top of the frame. The foundation frame was toe clamped to the shake table surface.

This is to certify the equipment described above was tested on the stated date in accordance the Trentec test plan, 2003 IBC, and AC 156. The equipment successfully met the acceptance criteria of structural integrity stated in the test plan during the 5 seismic simulation tests. See attached TRS plots for the highest achieved seismic levels to the foundation of the structure. Trentec report number 4S045.0 will document the complete seismic test program.

Test Coordinator: *Timothy A. Guss* 01/28/05

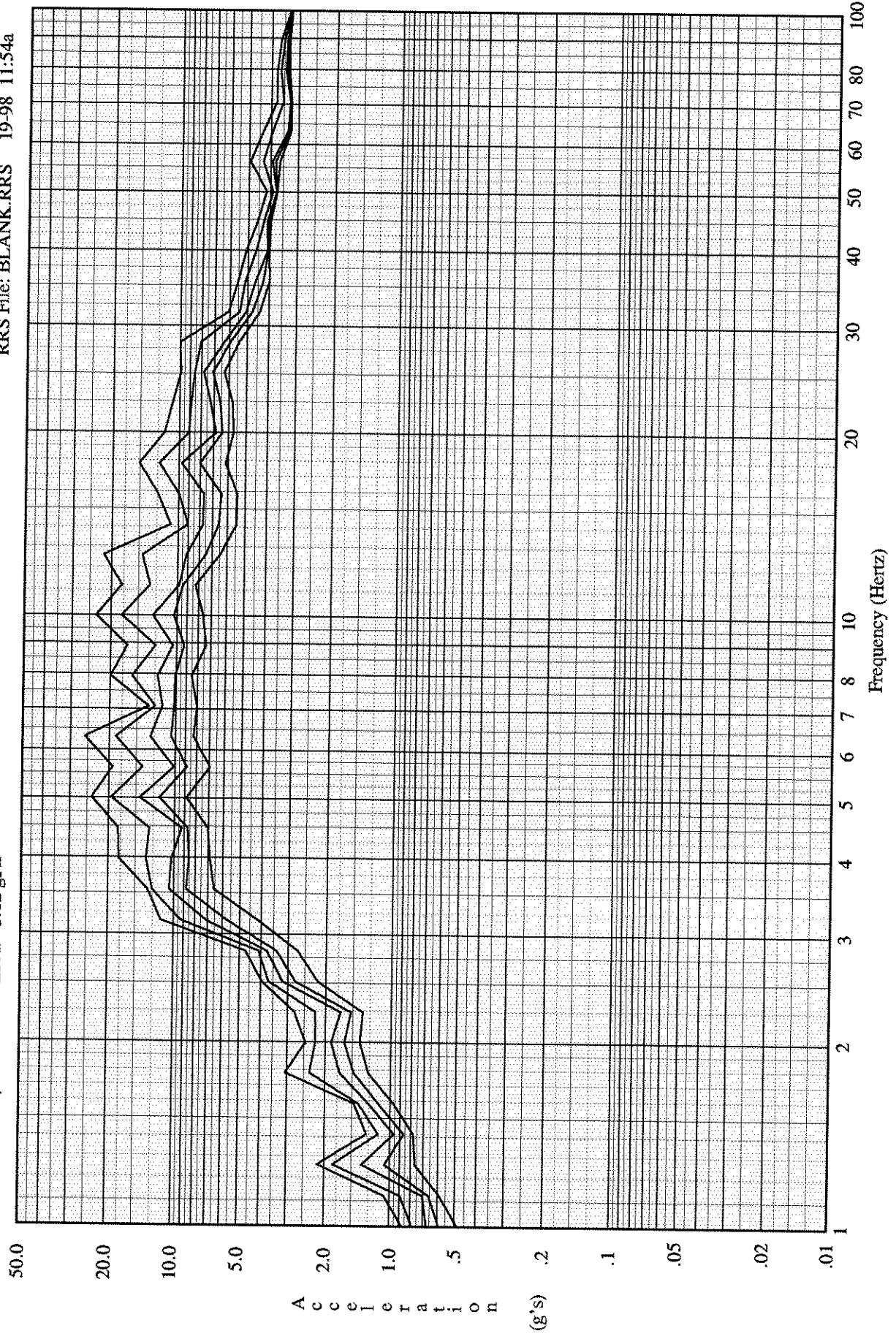
Technical Manager: *Harry V. Chymer* 1/28/05

**Trentec**  
4600 East Tech Drive  
Cincinnati, Ohio 45245

TEST RESPONSE SPECTRA

Data File: 4Q045005 19-05 3:07p  
Accel No. 1 1/6 Octave ZPA: 3.12 gPk

REQUIRED RESPONSE SPECTRA  
RRS File: BLANK.RRS 19-98 11:54a



TEST RESPONSE SPECTRA  
 Data File: 4Q045005 19-05 3:07p  
 Accel No. 1 1/6 Octave ZPA: 3.12 gPk

REQUIRED RESPONSE SPECTRA  
 RRS File: BLANK.RRS 19-98 11:54a

Required Response Spectra

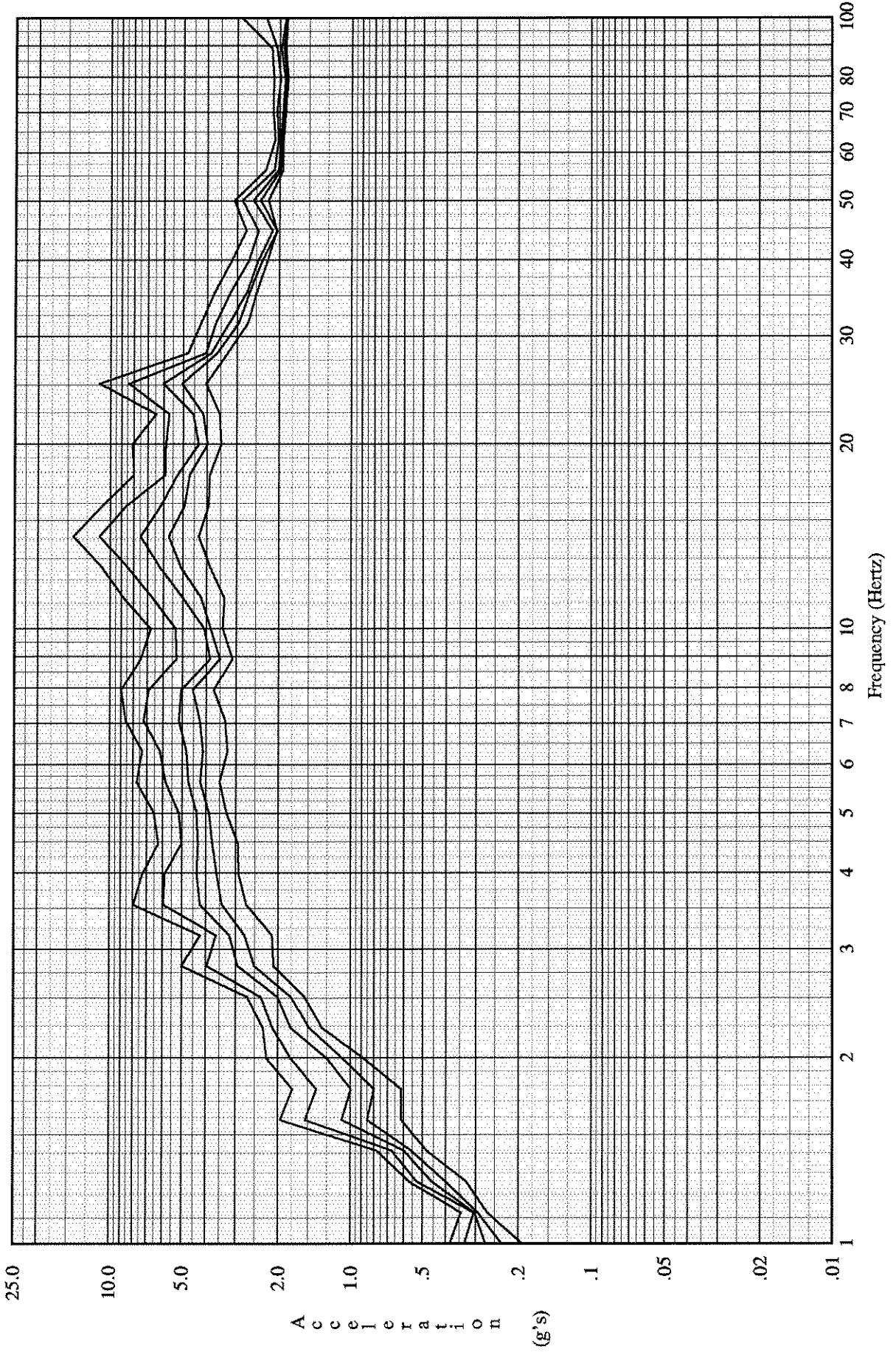
Freq	Accel	Freq	Accel
1.00	.00	100.00	.00

Test Response Spectra

Freq (hz)	5%Damp GPk	1.0%Damp GPk	2.0%Damp GPk	3.0%Damp GPk	5.0%Damp GPk
1.00	.87	.79	.67	.59	.49
1.12	1.06	.89	.70	.66	.59
1.26	2.15	1.83	1.35	1.06	.76
1.41	1.28	1.13	.96	.86	.78
1.58	1.47	1.41	1.26	1.14	.97
1.78	3.06	2.36	1.71	1.48	1.27
2.00	2.47	2.22	1.88	1.64	1.39
2.24	2.79	2.23	1.71	1.53	1.35
2.51	3.94	3.68	3.17	2.77	2.18
2.82	4.71	4.09	3.75	3.39	2.70
3.16	11.43	9.29	7.13	5.72	4.13
3.55	13.21	12.60	10.50	8.78	6.56
3.98	17.86	13.44	10.26	8.54	6.86
4.47	18.03	13.02	9.23	8.68	7.04
5.01	23.83	19.44	14.43	11.72	8.83
5.62	19.24	14.06	10.10	8.83	6.94
6.31	25.75	18.67	13.00	10.45	8.27
7.08	13.30	12.43	11.49	10.15	8.01
7.94	19.86	15.86	12.13	10.08	8.51
8.91	16.76	12.47	10.39	9.24	7.35
10.00	23.28	17.82	12.84	10.30	7.62
11.22	17.86	13.34	9.80	9.41	8.26
12.59	21.70	14.46	9.13	7.48	6.46
14.13	10.81	9.02	7.70	6.56	5.45
15.85	12.39	9.95	7.69	6.40	5.42
17.78	15.12	12.25	9.69	8.02	6.15
19.95	11.68	9.05	6.83	6.40	5.68
22.39	10.73	8.86	7.24	6.56	5.77
25.12	9.88	8.55	7.79	7.08	6.30
28.18	9.99	8.05	6.33	5.95	5.43
31.62	6.08	5.42	5.07	4.75	4.39
35.48	5.54	5.14	4.62	4.26	3.98
39.81	5.11	4.61	4.09	4.04	4.00
44.67	4.55	4.25	4.10	4.04	3.96
50.12	4.15	3.89	3.74	3.74	3.72
56.23	4.93	4.31	3.92	3.78	3.62
63.10	4.33	3.93	3.35	3.29	3.24
70.79	3.76	3.51	3.27	3.25	3.23
79.43	3.77	3.63	3.44	3.37	3.32
89.13	3.63	3.50	3.39	3.35	3.32
100.00	3.29	3.27	3.27	3.26	3.24

TEST RESPONSE SPECTRA  
Data File: 4Q045005 19-05 3:07p  
Accel No. 2 1/6 Octave ZPA: 1.78 gPk

REQUIRED RESPONSE SPECTRA  
RRS File: BLANK.RRS 19-98 11:54a



TEST RESPONSE SPECTRA  
 Data File: 4Q045005 19-05 3:07p  
 Accel No. 2 1/6 Octave ZPA: 1.78 gPk

REQUIRED RESPONSE SPECTRA  
 RRS File: BLANK.RRS 19-98 11:54a

Required Response Spectra

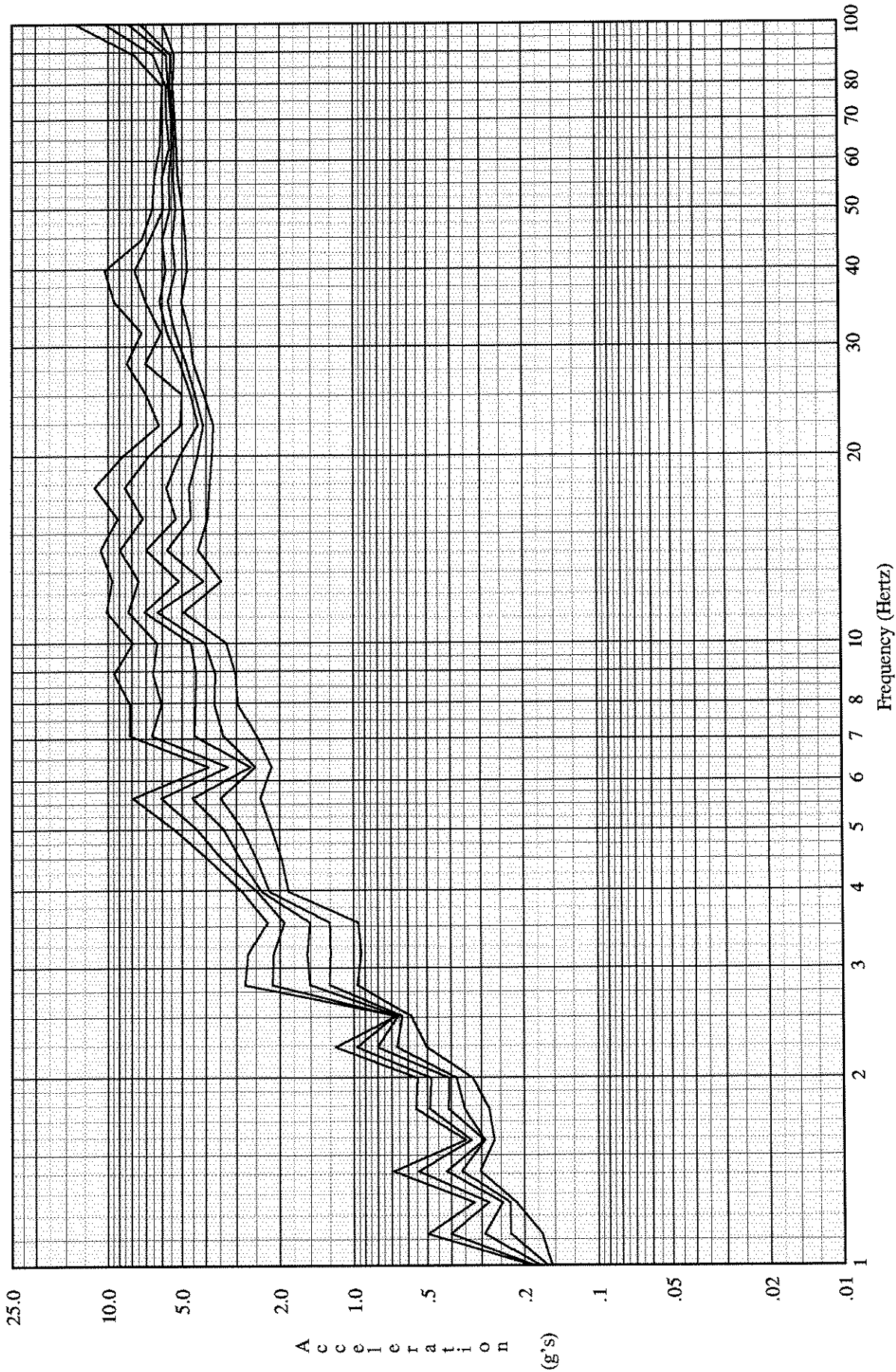
Freq	Accel	Freq	Accel
1.00	.00	100.00	.00

Test Response Spectra

Freq (hz)	.5%Damp GPK	1.0%Damp GPK	2.0%Damp GPK	3.0%Damp GPK	5.0%Damp GPK
1.00	.38	.33	.27	.23	.19
1.12	.35	.31	.30	.29	.27
1.26	.57	.53	.46	.40	.33
1.41	.78	.67	.60	.56	.48
1.58	1.95	1.54	1.08	.85	.61
1.78	1.73	1.38	1.00	.80	.61
2.00	2.23	1.76	1.25	1.08	.88
2.24	2.31	2.10	1.77	1.48	1.31
2.51	2.69	2.36	2.01	1.76	1.54
2.82	5.00	3.95	2.94	2.51	2.08
3.16	4.20	3.62	3.19	2.75	2.11
3.55	7.95	5.95	4.21	3.42	2.71
3.98	7.27	5.88	4.34	3.59	2.92
4.47	6.25	5.02	4.30	3.75	2.94
5.01	6.53	5.15	4.35	3.87	3.28
5.62	7.70	5.85	4.72	4.21	3.50
6.31	7.31	6.18	4.81	4.11	3.26
7.08	8.59	7.22	5.16	4.23	3.33
7.94	8.97	6.88	5.06	4.53	3.71
8.91	7.43	5.29	3.84	3.51	3.11
10.00	6.77	5.34	4.08	3.83	3.42
11.22	8.79	6.66	4.99	4.20	3.37
12.59	10.84	8.46	6.22	5.09	3.86
14.13	14.25	11.09	7.47	5.72	4.30
15.85	10.78	8.54	6.16	4.93	3.92
17.78	7.98	5.92	5.27	4.69	3.88
19.95	8.10	5.88	4.31	3.97	3.48
22.39	6.47	5.71	4.54	4.14	3.53
25.12	11.10	8.38	6.04	5.05	4.02
28.18	4.78	4.03	3.83	3.62	3.28
31.62	4.22	3.67	3.23	2.95	2.70
35.48	3.72	3.19	2.73	2.66	2.49
39.81	3.17	2.69	2.46	2.37	2.25
44.67	2.75	2.45	2.13	2.04	2.05
50.12	3.09	2.86	2.57	2.40	2.22
56.23	2.29	2.10	2.02	1.98	1.93
63.10	2.09	2.03	1.98	1.95	1.93
70.79	2.13	2.05	1.93	1.91	1.88
79.43	2.12	1.98	1.89	1.86	1.85
89.13	2.15	2.05	1.97	1.92	1.88
100.00	2.88	2.27	1.88	1.86	1.86

TEST RESPONSE SPECTRA  
Data File: 4Q045005 19-05 3:07p  
Accel No. 3 1/6 Octave ZPA: 3.49 gPk

REQUIRED RESPONSE SPECTRA  
RRS File: BLANK.RRS 19-98 11:54a



TEST RESPONSE SPECTRA  
 Data File: 4Q045005 19-05 3:07p  
 Accel No. 3 1/6 Octave ZPA: 3.49 gPk

REQUIRED RESPONSE SPECTRA  
 RRS File: BLANK.RRS 19-98 11:54a

Required Response Spectra

Freq	Accel	Freq	Accel
1.00	.00	100.00	.00

Test Response Spectra

Freq (hz)	.5%Damp GPK	1.0%Damp GPK	2.0%Damp GPK	3.0%Damp GPK	5.0%Damp GPK
1.00	.19	.18	.17	.16	.15
1.12	.50	.40	.29	.23	.17
1.26	.32	.28	.25	.23	.22
1.41	.69	.54	.42	.36	.30
1.58	.35	.33	.29	.29	.27
1.78	.55	.49	.41	.35	.28
2.00	.55	.48	.41	.38	.33
2.24	1.19	.97	.80	.66	.50
2.51	.67	.68	.66	.63	.58
2.82	2.77	2.14	1.51	1.26	.97
3.16	2.69	2.12	1.55	1.25	.93
3.55	2.24	1.92	1.51	1.25	.96
3.98	2.84	2.47	2.36	2.20	1.84
4.47	3.87	3.41	2.87	2.47	1.96
5.01	5.37	4.35	3.38	2.83	2.16
5.62	7.89	6.06	4.53	3.48	2.39
6.31	3.91	3.26	2.63	2.51	2.16
7.08	8.12	6.62	4.45	3.40	2.47
7.94	8.11	6.05	4.42	3.69	2.96
8.91	9.44	6.55	4.38	3.66	3.03
10.00	7.91	6.30	4.60	4.03	3.30
11.22	10.14	8.26	7.10	6.28	4.93
12.59	9.62	7.50	5.15	4.10	3.46
14.13	10.74	8.93	6.98	5.74	4.31
15.85	9.13	7.21	5.29	4.61	3.94
17.78	11.38	8.53	5.78	4.68	3.87
19.95	8.72	6.84	5.12	4.33	3.78
22.39	6.19	5.08	4.32	4.11	3.73
25.12	7.00	5.01	4.62	4.43	4.08
28.18	8.37	7.03	5.09	4.81	4.50
31.62	7.30	6.08	5.75	5.33	4.66
35.48	9.44	7.02	6.15	5.70	5.04
39.81	10.33	7.78	5.82	5.32	4.77
44.67	7.28	6.76	6.00	5.47	4.84
50.12	6.59	5.95	5.59	5.31	4.98
56.23	6.48	6.03	5.65	5.43	5.20
63.10	6.15	5.63	5.51	5.40	5.27
70.79	6.09	5.79	5.55	5.46	5.36
79.43	6.03	5.83	5.70	5.62	5.46
89.13	7.83	6.55	5.80	5.57	5.38
100.00	13.75	10.35	8.28	7.40	6.01