APPENDIX H

SHAKE ANALYSIS SUMMARIES

2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses 9
SHAKE2000 Flags 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike = .414 g

U. Wt. of Water = 62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number 1
Period for Soil Column 2.77 sec
Average Shear Wave Velocity for Soil Column 1451 ft/sec
Analysis No 1

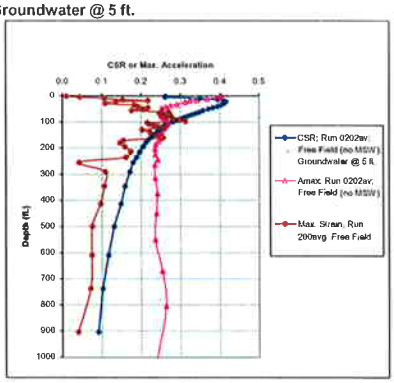
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

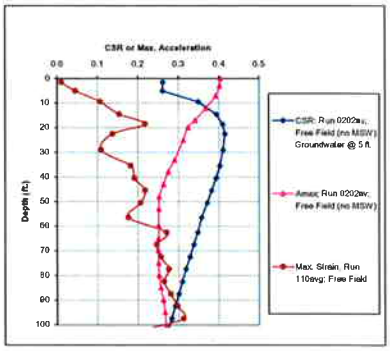
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3.2	629.7	0.0109	68.2	423.6	0	0.404	Clay PI=30	Clay PI=30
2	5	0.113	5.8	616.6	0.0454	226.7	383.4	3	0.402	Clay PI=30	Clay PI=30
3	9.5	0.113	7.6	420.2	0.1073	425.5	345.3	7	0.393	Clay PI=30	Clay PI=30
4	14.5	0.113	8.6	440.9	0.1541	633.8	353.4	12	0.369	Clay PI=30	Clay PI=30
5	18.5	0.12	23.7	416.1	0.2180	793.6	331.4	17	0.342	S&I 1970/V&D PI=	S&I 1970/V&D PI=22
6	22.5	0.113	8.7	728.4	0.1376	939.9	454.4	20	0.326	Clay PI=30	Clay PI=30
7	29	0.125	17.2	1221.6	0.1095	1167.0	558.3	25	0.312	S&I 1970	S&I 1970
8	35.5	0.127	12.1	852.5	0.1824	1399.7	461.9	33	0.292	Clay PI=19	Clay PI=19
9	40.5	0.127	12.5	901.5	0.1924	1561.9	474.9	38	0.275	Clay PI=19	Clay PI=19
10	45.5	0.127	13.1	873.5	0.2181	1707.6	467.3	43	0.264	Clay PI=19	Clay PI=19
11	50.5	0.127	13.1	991.2	0.2071	1843.4	497.9	48	0.253	Clay PI=19	Clay PI=19
12	56.5	0.125	13	1260.2	0.1773	1981.6	565.4	53	0.252	EPRI 51'-120'	EPRI 51'-120'
13	62.5	0.127	14.4	895.4	0.2706	2130.1	472.3	60	0.251	Clay PI=19	Clay PI=19
14	67.5	0.127	14.2	1027.9	0.2468	2239.5	506.3	65	0.251	Clay PI=19	Clay PI=19
15	72.5	0.127	14.5	1037.2	0.2563	2340.2	508.5	70	0.251	Clay PI=19	Clay PI=19
16	77.5	0.127	14.8	1006.8	0.2762	2429.8	500.7	75	0.251	Clay PI=19	Clay PI=19
17	82.5	0.127	14.8	1090.9	0.2642	2514.8	521.3	80	0.253	Clay PI=19	Clay PI=19
18	87.5	0.127	15.1	1066.2	0.2815	2592.3	515.1	85	0.257	Clay PI=19	Clay PI=19
19	92.5	0.127	15.4	1045.4	0.2976	2660.2	509.7	90	0.263	Clay PI=19	Clay PI=19
20	97.5	0.127	15.7	1027.8	0.3125	2717.6	505.0	95	0.267	Clay PI=19	Clay PI=19
21	102.5	0.127	14.4	1473.5	0.2168	2767.1	606.2	100	0.269	Clay PI=19	Clay PI=19
22	107.5	0.127	15.8	1584.6	0.2202	2822.6	622.5	105	0.269	EPRI 51'-120'	EPRI 51'-120'
23	112.5	0.127	16.2	1533.1	0.2319	2892.5	616.0	110	0.267	EPRI 51'-120'	EPRI 51'-120'
24	117.5	0.127	16.6	1502.9	0.2442	2969.2	609.8	115	0.263	EPRI 51'-120'	EPRI 51'-120'
25	122.5	0.127	17	1471.1	0.2578	3048.3	603.1	120	0.261	EPRI 51'-120'	EPRI 51'-120'
26	130	0.127	13.9	1798.7	0.2034	3159.1	670.3	125	0.259	EPRI 121-250	EPRI 121-250
27	140	0.127	14.5	1742.1	0.2227	3306.8	659.2	135	0.254	EPRI 121-250	EPRI 121-250
28	150	0.127	15.1	1697.5	0.2400	3429.3	650.3	145	0.250	EPRI 121-250	EPRI 121-250
29	160	0.127	15.6	1658.3	0.2568	3543.2	642.3	155	0.249	EPRI 121-250	EPRI 121-250
30	170	0.127	12.7	2659.7	0.1658	3643.2	816.3	165	0.248	EPRI 121-250	EPRI 121-250
31	180	0.127	12.4	2899.0	0.1470	3774.3	852.5	175	0.244	EPRI 121-250	EPRI 121-250
32	195	0.127	12.8	2817.5	0.1600	3961.3	839.9	185	0.238	EPRI 121-250	EPRI 121-250
33	215	0.128	13.3	2752.2	0.1746	4199.1	828.3	205	0.235	EPRI 121-250	EPRI 121-250
34	235	0.128	12.8	3057.7	0.1624	4405.4	871.6	225	0.237	EPRI 121-250	EPRI 121-250
35	255	0.128	5	11034.7	0.0425	4556.2	1665.0	245	0.243	EPRI 251-500	EPRI 251-500
36	290	0.128	8.6	4802.6	0.1098	4979.4	1096.6	265	0.238	EPRI 251-500	EPRI 251-500
37	345	0.129	8.4	5404.7	0.1073	5512.4	1159.2	315	0.237	EPRI 251-500	EPRI 251-500
38	412.5	0.13	7.8	6626.9	0.0977	6179.4	1270.0	375	0.243	EPRI 251-500	EPRI 251-500
39	500	0.131	5	9110.1	0.0759	6684.9	1495.1	450	0.240	EPRI501-1000	EPRI501-1000
40	610	0.132	5.1	10155.4	0.0749	7321.1	1572.4	550	0.237	EPRI501-1000	EPRI501-1000
41	737.5	0.133	5.1	11352.9	0.0721	7822.9	1656.0	670	0.255	EPRI501-1000	EPRI501-1000
42	905	0.135	5.1	22099.3	0.0400	8601.6	2294.9	805	0.264	EPRI501-1000	EPRI501-1000
43	Base							1005	0.241		

Run 0202av; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth = 5.0 ft.
Avg. PGA = .404 g
Avg. Amax = .404 g
Avg. CSR Max = 0.415
Avg. CSR Min = 0.091

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	169.5	0.262
7	565.0	0.261
12	792.7	0.349
17	1,045.7	0.394
20	1,258.0	0.410
25	1,471.5	0.415
33	1,848.4	0.410
38	2,260.3	0.403
43	2,583.3	0.393
48	2,906.3	0.382
53	3,229.3	0.371
60	3,609.9	0.357
65	3,990.5	0.347
70	4,313.5	0.337
75	4,636.5	0.328
80	4,959.5	0.318
85	5,282.5	0.309
90	5,605.5	0.301
95	5,928.5	0.292
100	6,251.5	0.283
105	6,574.5	0.274
110	6,897.5	0.266
115	7,220.5	0.260
120	7,543.5	0.256
125	7,866.5	0.252
135	8,351.0	0.246
145	8,997.0	0.239
155	9,643.0	0.231
165	10,289.0	0.224
175	10,935.0	0.217
185	11,581.0	0.212
205	12,550.0	0.205
225	13,852.0	0.197
245	15,154.0	0.189
265	16,476.0	0.180
315	18,772.0	0.172
375	22,410.0	0.160
450	26,943.0	0.149
550	32,908.0	0.132
670	40,514.0	0.117
805	49,455.5	0.103
1005	61,481.0	0.091





Identification: Dike (no MSW)
il Deposit Number: 2
or Soil Column: 2.81 sec
Velocity for Soil Column: 1442 ft/sec
Analysis No.: 2

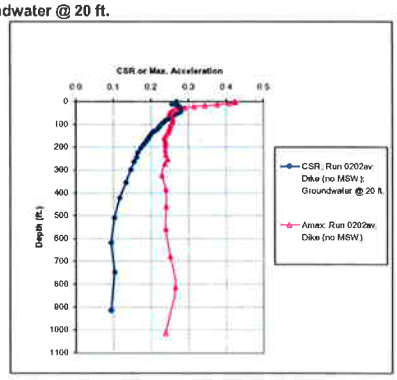
of Soil Layers: 45
ak Acceleration Values: 45

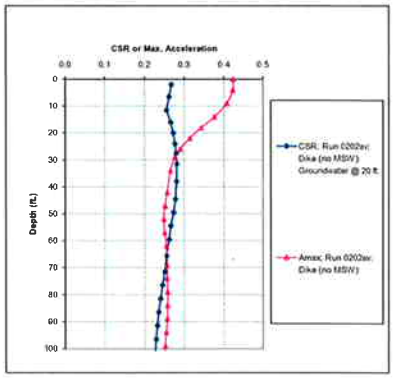
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	2.7	1716.9	0.0060	101.3	678.7	0	0.424	Clay PI=22	Clay PI=22
2	6.5	0.12	8	471.4	0.0741	326.6	354.8	4	0.423	Clay PI=22	Clay PI=22
3	11.5	0.12	10.7	356.1	0.1790	568.7	307.3	9	0.409	Clay PI=22	Clay PI=22
4	16	0.113	10.4	318.1	0.2673	765.6	299.4	14	0.377	Clay PI=30	Clay PI=30
5	20	0.113	11.6	283.9	0.3666	921.1	282.4	18	0.343	Clay PI=30	Clay PI=30
6	24	0.113	11.1	395.7	0.2965	1055.4	333.8	22	0.315	Clay PI=30	Clay PI=30
7	27.5	0.12	28.3	301.2	0.4747	1167.7	279.7	26	0.291	S&I 1970/V&D PI=	S&I 1970/V&D PI=22
8	31.5	0.113	10.5	628.6	0.2195	1268.5	421.4	29	0.277	Clay PI=30	Clay PI=30
9	38	0.125	20.9	1020.5	0.1069	1435.7	506.3	34	0.266	S&I 1970	S&I 1970
10	44.5	0.127	13.8	768.0	0.2394	1618.9	437.6	42	0.258	Clay PI=19	Clay PI=19
11	49.5	0.127	14.5	724.2	0.2755	1749.0	424.6	47	0.252	Clay PI=19	Clay PI=19
12	54.5	0.127	15	697.7	0.3113	1862.8	413.5	52	0.249	Clay PI=19	Clay PI=19
13	59.5	0.127	14.9	785.1	0.2856	1960.0	442.2	57	0.252	Clay PI=19	Clay PI=19
14	65.5	0.125	14.5	1210.4	0.1989	2063.1	553.5	62	0.256	EPRI 51'-120'	EPRI 51'-120'
15	71.5	0.127	15.2	869.8	0.2905	2187.2	465.3	69	0.257	Clay PI=19	Clay PI=19
16	76.5	0.127	14.9	1010.9	0.2587	2270.0	501.9	74	0.257	Clay PI=19	Clay PI=19
17	81.5	0.127	15.1	1029.3	0.2642	2345.2	506.3	79	0.259	Clay PI=19	Clay PI=19
18	86.5	0.127	15.3	1006.7	0.2810	2413.6	500.3	84	0.259	Clay PI=19	Clay PI=19
19	91.5	0.127	15.2	1096.1	0.2656	2486.2	522.2	89	0.258	Clay PI=19	Clay PI=19
20	96.5	0.127	15.5	1070.1	0.2821	2568.8	515.9	94	0.255	Clay PI=19	Clay PI=19
21	101.5	0.127	15.8	1044.9	0.2992	2651.8	509.7	99	0.253	Clay PI=19	Clay PI=19
22	106.5	0.127	16	1019.1	0.3179	2737.5	503.3	104	0.252	Clay PI=19	Clay PI=19
23	111.5	0.127	14.7	1455.3	0.2219	2815.7	603.0	109	0.251	Clay PI=19	Clay PI=19
24	116.5	0.127	16.3	1533.7	0.2315	2894.3	616.7	114	0.251	EPRI 51'-120'	EPRI 51'-120'
25	121.5	0.127	16.8	1500.1	0.2452	2975.7	609.6	119	0.249	EPRI 51'-120'	EPRI 51'-120'
26	126.5	0.127	17.2	1466.8	0.2594	3052.6	602.9	124	0.247	EPRI 51'-120'	EPRI 51'-120'
27	131.5	0.127	17.5	1440.5	0.2727	3123.7	596.7	129	0.247	EPRI 51'-120'	EPRI 51'-120'
28	139	0.127	14.2	1774.3	0.2128	3210.3	665.3	134	0.246	EPRI 121-250	EPRI 121-250
29	149	0.127	14.6	1732.3	0.2289	3326.1	656.9	144	0.242	EPRI 121-250	EPRI 121-250
30	159	0.127	15.1	1689.8	0.2457	3456.3	648.3	154	0.237	EPRI 121-250	EPRI 121-250
31	169	0.127	15.5	1651.7	0.2616	3574.0	640.5	164	0.235	EPRI 121-250	EPRI 121-250
32	179	0.127	12.6	2643.1	0.1582	3681.4	813.5	174	0.239	EPRI 121-250	EPRI 121-250
33	189	0.127	12.2	2877.5	0.1485	3808.2	849.4	184	0.239	EPRI 121-250	EPRI 121-250
34	204	0.127	12.5	2793.6	0.1605	3993.4	836.6	194	0.239	EPRI 121-250	EPRI 121-250
35	224	0.128	13	2734.0	0.1740	4222.3	824.0	214	0.238	EPRI 121-250	EPRI 121-250
36	244	0.128	12.6	3054.1	0.1614	4406.6	871.3	234	0.240	EPRI 121-250	EPRI 121-250
37	264	0.128	5	11042.2	0.0423	4549.6	1665.6	254	0.245	EPRI 251-500	EPRI 251-500
38	299	0.128	8.4	4709.3	0.1097	4998.2	1096.5	274	0.238	EPRI 251-500	EPRI 251-500
39	354	0.129	8.299999	5392.8	0.1091	5589.2	1156.9	324	0.230	EPRI 251-500	EPRI 251-500
40	421.5	0.13	7.7	6644.5	0.0969	6126.1	1280.5	384	0.240	EPRI 251-500	EPRI 251-500
41	509	0.131	5	9135.2	0.0752	6628.6	1497.1	459	0.241	EPRI501-1000	EPRI501-1000
42	619	0.132	5.1	10188.0	0.0739	7238.7	1574.9	559	0.240	EPRI501-1000	EPRI501-1000
43	746.5	0.133	5.1	11368.7	0.0717	7799.1	1657.3	679	0.252	EPRI501-1000	EPRI501-1000
44	914	0.135	5.1	22091.1	0.0402	8650.5	2294.5	814	0.265	EPRI501-1000	EPRI501-1000
45	Base							1014	0.239		

Run 0202av; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth = 20.0 ft.
PGA = .424 g
Amax = .424 g
CSR Max = 0.282
CSR Min = 0.093

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.267
9	780.0	0.262
14	1,380.0	0.255
18	1,906.0	0.266
22	2,358.0	0.272
26	2,560.4	0.277
29	2,748.0	0.280
34	2,960.9	0.282
42	3,337.8	0.281
47	3,749.7	0.278
52	4,072.7	0.273
57	4,395.7	0.266
62	4,718.7	0.262
69	5,099.3	0.256
74	5,479.9	0.251
79	5,802.9	0.245
84	6,125.9	0.240
89	6,448.9	0.236
94	6,771.9	0.232
99	7,094.9	0.229
104	7,417.9	0.227
109	7,740.9	0.224
114	8,063.9	0.222
119	8,386.9	0.219
124	8,709.9	0.217
129	9,032.9	0.212
134	9,355.9	0.206
144	9,840.4	0.202
154	10,488.4	0.197
164	11,132.4	0.193
174	11,778.4	0.190
184	12,424.4	0.185
194	13,070.4	0.180
214	14,039.4	0.173
234	15,341.4	0.166
254	16,653.4	0.162
274	17,965.4	0.155
324	20,261.4	0.146
384	23,899.4	0.134
459	28,432.4	0.117
559	34,397.4	0.103
679	42,003.4	0.093
814	50,944.9	0.103
1014	62,970.4	0.093





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Identification: Newby 34' MSW
d Deposit Number: 3
or Soil Column: 2.87 sec
Velocity for Soil Column: 1440 ft/sec
Analysis No.: 3

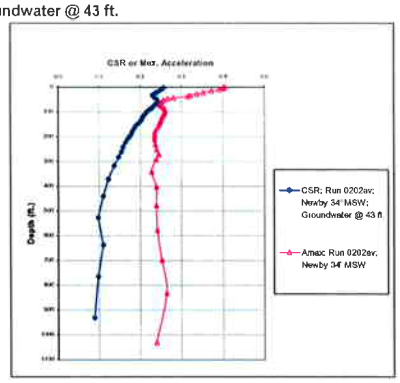
of Soil Layers: 47
k Acceleration Values: 47

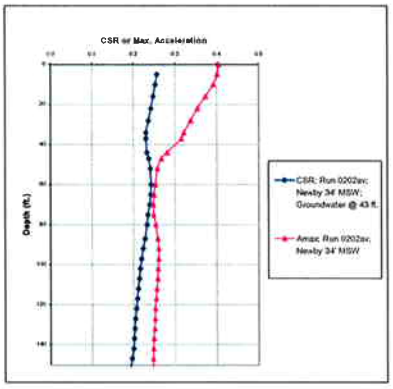
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.9	453.1	0.0177	80.2	427.0	0	0.404	Waste (K&M)	Waste (K&M)
2	7.5	0.08	9.5	505.5	0.0475	239.4	451.0	5	0.401	Waste (K&M)	Waste (K&M)
3	13	0.08	11.1	536.8	0.0771	411.1	464.8	10	0.391	Waste (K&M)	Waste (K&M)
4	19	0.08	12.1	594.6	0.1002	590.3	489.2	16	0.373	Waste (K&M)	Waste (K&M)
5	25	0.08	12.8	656.3	0.1170	759.2	513.9	22	0.353	Waste (K&M)	Waste (K&M)
6	31	0.08	13.2	723.6	0.1287	919.2	539.6	28	0.338	Waste (K&M)	Waste (K&M)
7	35.5	0.12	9.3	1230.6	0.0911	1044.2	572.8	34	0.322	Clay PI=22	Clay PI=22
8	40.5	0.113	12.4	519.3	0.2579	1219.8	382.7	37	0.316	Clay PI=30	Clay PI=30
9	45.5	0.12	30	329.8	0.5096	1377.7	292.5	44	0.281	S&I 1970/V&D PI=	S&I 1970/V&D PI=22
10	49.5	0.113	11.6	742.5	0.2154	1472.7	458.0	47	0.267	Clay PI=30	Clay PI=30
11	58	0.125	22.8	1149.0	0.1690	1632.6	537.0	52	0.257	S&I 1970	S&I 1970
12	62.5	0.127	14.6	860.3	0.2382	1909.0	463.2	60	0.253	Clay PI=19	Clay PI=19
13	67.5	0.127	15.1	818.4	0.2689	1932.9	451.6	65	0.248	Clay PI=19	Clay PI=19
14	72.5	0.127	15.6	783.0	0.2991	2041.8	441.4	70	0.247	Clay PI=19	Clay PI=19
15	77.5	0.127	15.4	870.6	0.2808	2134.3	465.6	76	0.248	Clay PI=19	Clay PI=19
16	83.5	0.125	15.1	1349.6	0.1908	2227.0	584.5	80	0.254	EPRI 51'-120'	EPRI 51'-120'
17	89.5	0.127	15.5	969.6	0.2801	2344.6	491.2	87	0.258	Clay PI=19	Clay PI=19
18	94.5	0.127	15.1	1120.9	0.2495	2422.1	528.5	92	0.260	Clay PI=19	Clay PI=19
19	99.5	0.127	15.3	1143.6	0.2530	2491.5	533.6	97	0.261	Clay PI=19	Clay PI=19
20	104.5	0.127	15.6	1122.2	0.2669	2556.5	528.3	102	0.259	Clay PI=19	Clay PI=19
21	109.5	0.127	15.4	1190.9	0.2578	2630.9	544.5	107	0.258	Clay PI=19	Clay PI=19
22	114.5	0.127	15.7	1165.3	0.2716	2705.5	538.5	112	0.256	Clay PI=19	Clay PI=19
23	119.5	0.127	15.9	1141.1	0.2858	2780.6	532.8	117	0.254	Clay PI=19	Clay PI=19
24	124.5	0.127	16.1	1117.1	0.3012	2858.2	527.1	122	0.252	Clay PI=19	Clay PI=19
25	129.5	0.127	14.8	1543.0	0.2175	2929.3	620.9	127	0.251	Clay PI=19	Clay PI=19
26	134.5	0.127	16.5	1664.7	0.2201	3000.4	642.7	132	0.250	EPRI 51'-120'	EPRI 51'-120'
27	139.5	0.127	16.9	1632.4	0.2319	3078.2	636.2	137	0.248	EPRI 51'-120'	EPRI 51'-120'
28	144.5	0.127	17.3	1600.9	0.2444	3152.9	629.7	142	0.247	EPRI 51'-120'	EPRI 51'-120'
29	149.5	0.127	17.5	1571.1	0.2572	3223.8	623.4	147	0.246	EPRI 51'-120'	EPRI 51'-120'
30	157	0.127	14.1	1927.1	0.2009	3315.3	693.7	152	0.246	EPRI 121-250	EPRI 121-250
31	167	0.127	14.6	1881.7	0.2166	3435.8	684.8	162	0.242	EPRI 121-250	EPRI 121-250
32	177	0.127	15.1	1839.1	0.2318	3563.5	676.5	172	0.238	EPRI 121-250	EPRI 121-250
33	187	0.127	15.4	1800.3	0.2464	3678.9	668.9	182	0.234	EPRI 121-250	EPRI 121-250
34	197	0.127	12.4	2738.9	0.1571	3782.4	828.1	192	0.235	EPRI 121-250	EPRI 121-250
35	207	0.127	12	2999.0	0.1462	3900.2	867.0	202	0.234	EPRI 121-250	EPRI 121-250
36	222	0.127	12.4	2916.2	0.1573	4080.1	854.8	212	0.235	EPRI 121-250	EPRI 121-250
37	242	0.128	12.9	2859.8	0.1699	4309.4	842.8	232	0.237	EPRI 121-250	EPRI 121-250
38	262	0.128	12.4	3184.7	0.1580	4497.1	889.9	252	0.239	EPRI 121-250	EPRI 121-250
39	282	0.128	4.9	11438.7	0.0416	4633.1	1695.3	272	0.245	EPRI 251-500	EPRI 251-500
40	317	0.129	8.4	5021.2	0.1062	5064.9	1117.3	292	0.238	EPRI 251-500	EPRI 251-500
41	372	0.129	8.299999	5534.2	0.1074	5662.6	1173.1	342	0.227	EPRI 251-500	EPRI 251-500
42	439.5	0.13	7.7	6734.9	0.0966	6194.3	1269.2	402	0.239	EPRI 251-500	EPRI 251-500
43	527	0.131	5	9225.0	0.0751	6885.2	1604.5	477	0.239	EPRI501-1000	EPRI501-1000
44	637	0.132	5.1	10385.0	0.0731	7204.0	1590.0	577	0.241	EPRI501-1000	EPRI501-1000
45	764.5	0.133	5.2	11505.6	0.0712	7834.2	1667.2	697	0.252	EPRI501-1000	EPRI501-1000
46	932	0.135	5.2	22083.6	0.0403	8669.6	2294.1	832	0.264	EPRI501-1000	EPRI501-1000
47	Base							1032	0.239		

Run 0202av; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.404 g
Amax =	.404 g
CSR Max =	0.257
CSR Min =	0.088

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.257
10	600.0	0.253
16	1,040.0	0.247
22	1,520.0	0.242
28	2,000.0	0.236
34	2,480.0	0.230
37	2,900.0	0.230
44	3,475.5	0.232
47	3,865.0	0.236
52	4,107.9	0.240
60	4,484.8	0.242
65	4,896.7	0.241
70	5,219.7	0.239
75	5,542.7	0.234
80	5,865.7	0.232
87	6,246.3	0.228
92	6,626.9	0.223
97	6,949.9	0.219
102	7,272.9	0.216
107	7,595.9	0.213
112	7,918.9	0.211
117	8,241.9	0.209
122	8,564.9	0.207
127	8,887.9	0.205
132	9,210.9	0.203
137	9,533.9	0.201
142	9,856.9	0.200
147	10,179.9	0.196
152	10,502.9	0.192
162	10,987.4	0.189
172	11,633.4	0.185
182	12,279.4	0.181
192	12,925.4	0.178
202	13,571.4	0.175
212	14,217.4	0.170
232	15,186.4	0.164
252	16,486.4	0.158
272	17,800.4	0.154
292	19,112.4	0.147
342	21,433.4	0.136
402	25,096.4	0.122
477	29,629.4	0.110
577	35,504.4	0.098
697	43,450.4	0.110
832	52,391.9	0.098
1032	64,417.4	0.088





Identification: Newby 65' MSW
d Deposit Number: 4
or Soil Column: 2.92 sec
Velocity for Soil Column: 1435 ft/sec
Analysis No.: 4

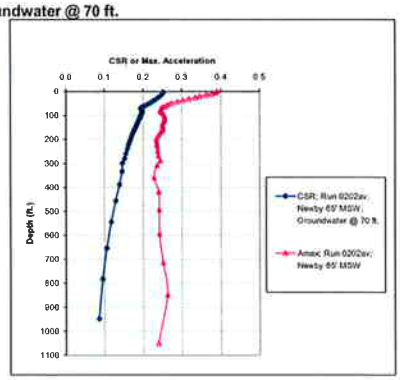
of Soil Layers: 50
k Acceleration Values: 50

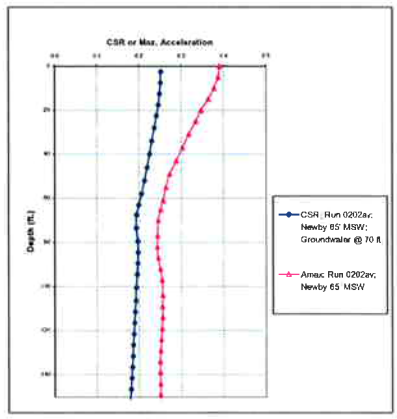
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.6	453.3	0.0171	77.6	427.2	0	0.390	Waste (K&M)	Waste (K&M)
2	7.5	0.08	9.3	493.4	0.0481	231.7	441.1	5	0.387	Waste (K&M)	Waste (K&M)
3	12.5	0.08	10.6	539.4	0.0714	382.9	465.9	10	0.377	Waste (K&M)	Waste (K&M)
4	17.5	0.08	11.4	600.0	0.0888	528.7	491.4	15	0.363	Waste (K&M)	Waste (K&M)
5	22.5	0.08	12.1	638.9	0.1055	667.9	507.0	20	0.347	Waste (K&M)	Waste (K&M)
6	28	0.08	12.5	706.1	0.1165	813.4	533.0	25	0.335	Waste (K&M)	Waste (K&M)
7	34	0.08	13	747.7	0.1306	964.0	548.5	31	0.319	Waste (K&M)	Waste (K&M)
8	40	0.08	13.3	822.8	0.1362	1105.9	576.3	37	0.303	Waste (K&M)	Waste (K&M)
9	46	0.08	13.6	871.2	0.1441	1238.5	592.0	43	0.288	Waste (K&M)	Waste (K&M)
10	52	0.08	13.8	923.2	0.1494	1359.8	609.4	49	0.273	Waste (K&M)	Waste (K&M)
11	58	0.09	13.5	1120.1	0.1335	1476.7	632.9	55	0.264	Waste (K&M)	Waste (K&M)
12	63	0.12	11.1	1208.6	0.1433	1589.1	566.4	61	0.257	Clay PI=22	Clay PI=22
13	67.5	0.12	11.6	1157.4	0.1613	1708.8	554.6	65	0.251	Clay PI=22	Clay PI=22
14	73.5	0.125	24.7	803.8	0.2899	1855.2	446.7	70	0.245	S&I 1970	S&I 1970
15	79.5	0.127	15.4	876.3	0.2592	2001.7	467.5	77	0.244	Clay PI=19	Clay PI=19
16	84.5	0.127	15.9	842.0	0.2863	2107.6	458.0	82	0.243	Clay PI=19	Clay PI=19
17	89.5	0.127	16.4	814.1	0.3123	2201.1	450.0	87	0.245	Clay PI=19	Clay PI=19
18	94.5	0.127	16.1	909.2	0.2903	2283.1	475.6	92	0.250	Clay PI=19	Clay PI=19
19	100.5	0.125	16.2	1399.5	0.1984	2362.9	504.7	97	0.254	EPRI 51'-120'	EPRI 51'-120'
20	106.5	0.127	16.1	978.5	0.2968	2469.9	493.0	104	0.256	Clay PI=19	Clay PI=19
21	111.5	0.127	15.7	1130.4	0.2626	2548.0	530.4	109	0.255	Clay PI=19	Clay PI=19
22	116.5	0.127	15.8	1149.7	0.2659	2624.2	534.9	114	0.255	Clay PI=19	Clay PI=19
23	121.5	0.127	16.1	1124.6	0.2803	2696.8	529.0	119	0.254	Clay PI=19	Clay PI=19
24	126.5	0.127	15.9	1193.6	0.2699	2767.0	545.2	124	0.253	Clay PI=19	Clay PI=19
25	131.5	0.127	16.2	1169.8	0.2838	2840.1	539.6	129	0.251	Clay PI=19	Clay PI=19
26	136.5	0.127	16.4	1147.0	0.2984	2913.1	534.2	134	0.250	Clay PI=19	Clay PI=19
27	141.5	0.127	16.6	1125.7	0.3134	2984.1	529.0	139	0.249	Clay PI=19	Clay PI=19
28	146.5	0.127	15.3	1609.2	0.2174	3048.8	634.1	144	0.250	Clay PI=19	Clay PI=19
29	151.5	0.127	17.3	1676.6	0.2287	3111.9	644.7	149	0.251	EPRI 51'-120'	EPRI 51'-120'
30	156.5	0.127	17.6	1647.5	0.2398	3177.7	638.7	154	0.251	EPRI 51'-120'	EPRI 51'-120'
31	161.5	0.127	17.9	1620.0	0.2513	3241.7	633.0	159	0.250	EPRI 51'-120'	EPRI 51'-120'
32	166.5	0.127	18.2	1506.0	0.2617	3300.0	627.9	164	0.247	EPRI 51'-120'	EPRI 51'-120'
33	174	0.127	14.7	1965.6	0.2024	3376.9	700.2	169	0.246	EPRI 121-250	EPRI 121-250
34	184	0.127	15.2	1925.9	0.2166	3498.7	692.5	179	0.240	EPRI 121-250	EPRI 121-250
35	194	0.127	15.5	1881.9	0.2312	3623.5	684.1	189	0.236	EPRI 121-250	EPRI 121-250
36	204	0.127	15.8	1837.0	0.2455	3747.4	675.6	199	0.232	EPRI 121-250	EPRI 121-250
37	214	0.128	12.8	2898.0	0.1498	3847.0	848.8	209	0.234	EPRI 121-250	EPRI 121-250
38	224	0.128	12.3	3086.9	0.1434	3957.0	876.4	219	0.235	EPRI 121-250	EPRI 121-250
39	239	0.128	12.7	3009.2	0.1540	4138.8	865.1	229	0.236	EPRI 121-250	EPRI 121-250
40	259	0.128	13.2	2920.7	0.1684	4358.3	851.7	249	0.237	EPRI 121-250	EPRI 121-250
41	279	0.128	12.6	3242.1	0.1564	4555.4	898.1	269	0.239	EPRI 121-250	EPRI 121-250
42	299	0.128	5	11551.6	0.0416	4683.7	1703.7	289	0.244	EPRI 251-500	EPRI 251-500
43	334	0.128	8.4	5042.5	0.1075	5155.4	1124.1	309	0.236	EPRI 251-500	EPRI 251-500
44	389	0.129	8.2	5621.4	0.1066	5708.4	1182.3	359	0.227	EPRI 251-500	EPRI 251-500
45	456.5	0.13	7.6	6855.1	0.0949	6184.9	1300.6	419	0.239	EPRI 251-500	EPRI 251-500
46	544	0.131	5	9358.0	0.0742	6897.6	1515.3	494	0.241	EPRI501-1000	EPRI501-1000
47	654	0.132	5.1	10386.1	0.0731	7291.8	1590.1	594	0.242	EPRI501-1000	EPRI501-1000
48	781.5	0.133	5.2	11665.7	0.0701	7824.4	1678.8	714	0.251	EPRI501-1000	EPRI501-1000
49	949	0.135	5.1	22070.8	0.0405	8702.9	2293.4	849	0.263	EPRI501-1000	EPRI501-1000
50	Base							1049	0.239		

Run 0202av; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.390 g
Amax =	.390 g
CSR Max =	0.252
CSR Min =	0.086

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.252
10	600.0	0.251
15	1,000.0	0.249
20	1,400.0	0.245
25	1,800.0	0.241
31	2,240.0	0.236
37	2,720.0	0.230
43	3,200.0	0.225
49	3,680.0	0.219
55	4,160.0	0.212
61	4,670.0	0.206
65	5,180.0	0.199
70	5,720.0	0.194
77	6,239.1	0.193
82	6,619.7	0.197
87	6,942.7	0.197
92	7,265.7	0.197
97	7,588.7	0.196
104	7,999.3	0.193
109	8,349.9	0.192
114	8,672.9	0.191
119	8,995.9	0.190
124	9,318.9	0.188
129	9,641.9	0.187
134	9,964.9	0.185
139	10,287.9	0.184
144	10,610.9	0.183
149	10,933.9	0.181
154	11,256.9	0.180
159	11,579.9	0.178
164	11,902.9	0.177
169	12,225.9	0.175
179	12,710.4	0.173
189	13,356.4	0.170
199	14,002.4	0.168
209	14,648.4	0.166
219	15,294.4	0.163
229	15,955.4	0.161
249	16,930.4	0.159
269	18,251.4	0.155
289	19,563.4	0.151
309	20,875.4	0.146
359	23,171.4	0.145
419	26,809.4	0.138
494	31,342.4	0.128
594	37,307.4	0.117
714	44,913.4	0.106
849	53,854.9	0.094
1049	65,880.4	0.086





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Identification: Newby 95' MSW
il Deposit Number: 5
for Soil Column 3 sec
Velocity for Soil Column 1418 ft/sec
Analysis No 5

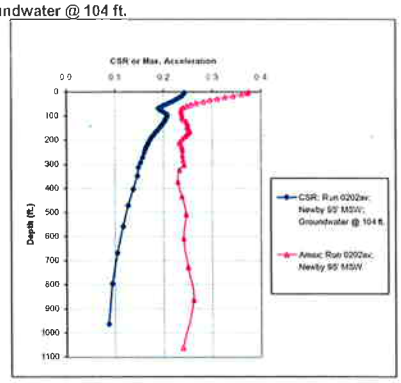
of Soil Layers: 50
ak Acceleration Values: 50

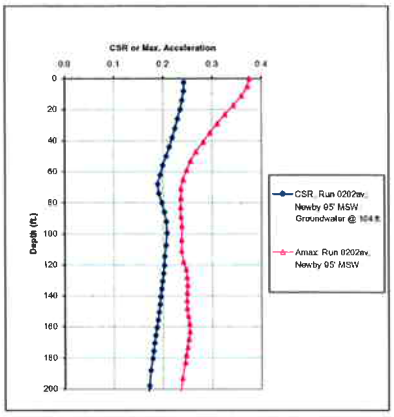
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.5	453.7	0.0165	74.7	427.3	0	0.376	Waste (K&M)	Waste (K&M)
2	8	0.08	9.2	505.6	0.0473	238.3	451.1	5	0.372	Waste (K&M)	Waste (K&M)
3	14	0.08	10.7	560.9	0.0739	412.0	475.1	11	0.360	Waste (K&M)	Waste (K&M)
4	20	0.08	11.8	621.2	0.0938	578.3	500.0	17	0.343	Waste (K&M)	Waste (K&M)
5	26	0.08	12.2	686.3	0.1083	736.4	525.5	23	0.326	Waste (K&M)	Waste (K&M)
6	32	0.08	12.7	727.2	0.1230	864.9	540.9	29	0.310	Waste (K&M)	Waste (K&M)
7	38	0.08	13	801.2	0.1292	1023.2	567.8	35	0.296	Waste (K&M)	Waste (K&M)
8	44	0.08	13.3	848.8	0.1376	1152.5	584.4	41	0.282	Waste (K&M)	Waste (K&M)
9	50	0.09	12.9	1066.2	0.1212	1278.7	617.6	47	0.267	Waste (K&M)	Waste (K&M)
10	56	0.09	13.2	1127.8	0.1267	1402.5	635.1	53	0.256	Waste (K&M)	Waste (K&M)
11	62	0.09	13.4	1191.8	0.1295	1526.6	652.9	59	0.248	Waste (K&M)	Waste (K&M)
12	68	0.09	13.6	1259.0	0.1321	1643.9	671.0	65	0.241	Waste (K&M)	Waste (K&M)
13	74	0.09	13.7	1329.3	0.1334	1752.4	689.5	71	0.236	Waste (K&M)	Waste (K&M)
14	80	0.09	13.8	1402.9	0.1337	1853.4	708.3	77	0.236	Waste (K&M)	Waste (K&M)
15	86	0.09	13.9	1478.9	0.1337	1952.7	727.3	83	0.236	Waste (K&M)	Waste (K&M)
16	92	0.09	14	1557.9	0.1330	2046.0	746.4	89	0.236	Waste (K&M)	Waste (K&M)
17	99.5	0.12	13.7	999.6	0.2435	2166.2	514.3	95	0.238	Clay PI=22	Clay PI=22
18	107.5	0.127	16.3	751.8	0.3633	2303.1	431.5	104	0.238	Clay PI=19	Clay PI=19
19	114.5	0.125	16.8	1172.3	0.2621	2407.9	542.4	111	0.238	EPRI 51'-120'	EPRI 51'-120'
20	120.5	0.127	16.4	844.1	0.3567	2524.3	457.2	118	0.242	Clay PI=19	Clay PI=19
21	125.5	0.127	16	983.4	0.3112	2599.8	494.1	123	0.247	Clay PI=19	Clay PI=19
22	130.5	0.127	16.1	1003.1	0.3141	2673.8	499.1	128	0.249	Clay PI=19	Clay PI=19
23	135.5	0.127	16.4	981.5	0.3318	2746.2	493.5	133	0.249	Clay PI=19	Clay PI=19
24	140.5	0.127	16.2	1047.1	0.3181	2815.2	509.9	138	0.249	Clay PI=19	Clay PI=19
25	145.5	0.127	16.4	1026.3	0.3351	2884.9	504.6	143	0.248	Clay PI=19	Clay PI=19
26	150.5	0.127	16.7	1006.2	0.3531	2951.8	499.3	148	0.248	Clay PI=19	Clay PI=19
27	155.5	0.127	16.9	988.0	0.3703	3014.6	494.6	153	0.251	Clay PI=19	Clay PI=19
28	160.5	0.127	15.5	1443.5	0.2480	3069.1	599.7	158	0.254	Clay PI=19	Clay PI=19
29	165.5	0.127	17.7	1501.5	0.2630	3121.2	608.8	163	0.254	EPRI 51'-120'	EPRI 51'-120'
30	170.5	0.127	18	1479.7	0.2737	3176.5	604.1	168	0.252	EPRI 51'-120'	EPRI 51'-120'
31	175.5	0.127	18.3	1459.2	0.2844	3228.7	599.6	173	0.249	EPRI 51'-120'	EPRI 51'-120'
32	180.5	0.127	18.5	1437.4	0.2955	3283.1	594.8	178	0.247	EPRI 51'-120'	EPRI 51'-120'
33	188	0.127	15.1	1786.2	0.2252	3350.9	666.7	183	0.245	EPRI 121-250	EPRI 121-250
34	198	0.127	15.5	1748.2	0.2398	3461.8	659.1	193	0.239	EPRI 121-250	EPRI 121-250
35	208	0.127	15.8	1705.6	0.2546	3581.2	650.7	203	0.235	EPRI 121-250	EPRI 121-250
36	218	0.127	16.1	1667.3	0.2686	3698.8	643.1	213	0.232	EPRI 121-250	EPRI 121-250
37	228	0.127	13	2653.4	0.1630	3792.4	814.8	223	0.237	EPRI 121-250	EPRI 121-250
38	238	0.127	12.8	2913.1	0.1512	3910.1	854.4	233	0.238	EPRI 121-250	EPRI 121-250
39	253	0.127	12.9	2938.3	0.1630	4096.0	842.8	243	0.239	EPRI 121-250	EPRI 121-250
40	273	0.128	13.4	2773.0	0.1756	4317.1	829.9	263	0.238	EPRI 121-250	EPRI 121-250
41	293	0.128	12.9	3091.3	0.1625	4518.5	877.0	283	0.240	EPRI 121-250	EPRI 121-250
42	313	0.128	5	11122.6	0.0430	4672.9	1671.8	303	0.242	EPRI 251-500	EPRI 251-500
43	348	0.129	8.5	4897.8	0.1103	5145.7	1103.5	323	0.233	EPRI 251-500	EPRI 251-500
44	403	0.129	8.2	5437.7	0.1086	5612.6	1162.7	373	0.229	EPRI 251-500	EPRI 251-500
45	470.5	0.13	7.6	6778.8	0.0941	6058.2	1293.4	433	0.238	EPRI 251-500	EPRI 251-500
46	558	0.131	5	9244.8	0.0743	6626.4	1506.1	508	0.246	EPRI501-1000	EPRI501-1000
47	668	0.132	5.1	10280.8	0.0729	7196.0	1582.0	608	0.241	EPRI501-1000	EPRI501-1000
48	795.5	0.133	5.2	11404.2	0.0713	7759.5	1658.8	728	0.250	EPRI501-1000	EPRI501-1000
49	963	0.135	5.1	22056.2	0.0407	8745.2	2292.6	863	0.261	EPRI501-1000	EPRI501-1000
50	Base							1063	0.240		

Run 0202av; Newby 95' MSW; Groundwater @ 104 ft.

Groundwater Depth =	104.0 ft.
PGA =	.376 g
Amax =	.376 g
CSR Max =	0.243
CSR Min =	0.087

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.243
11	640.0	0.242
17	1,120.0	0.239
23	1,600.0	0.235
29	2,080.0	0.230
35	2,560.0	0.225
41	3,040.0	0.219
47	3,520.0	0.213
53	4,030.0	0.206
59	4,570.0	0.199
65	5,110.0	0.194
71	5,650.0	0.189
77	5,940.4	0.192
83	6,108.0	0.197
89	6,271.6	0.202
95	6,437.2	0.207
104	6,779.2	0.208
111	7,264.5	0.206
118	7,709.7	0.203
123	8,090.3	0.203
128	8,413.3	0.201
133	8,736.3	0.199
138	9,059.3	0.197
143	9,382.3	0.195
148	9,705.3	0.193
153	10,028.3	0.191
158	10,351.3	0.189
163	10,674.3	0.187
168	10,997.3	0.184
173	11,320.3	0.182
178	11,643.3	0.180
183	11,966.3	0.178
193	12,450.8	0.175
203	13,096.8	0.172
213	13,742.8	0.169
223	14,388.8	0.167
233	15,034.8	0.164
243	15,680.8	0.162
263	16,649.8	0.160
283	17,951.8	0.158
303	19,253.8	0.152
323	20,575.8	0.148
373	22,896.8	0.146
433	26,559.8	0.137
508	31,092.8	0.127
608	37,057.8	0.116
728	44,663.8	0.105
863	53,605.3	0.094
1063	65,630.8	0.087





dentification: Newby 150' MSW
il Deposit Number: 6
or Soil Column: 3.24 sec
Velocity for Soil Column: 1371 ft/sec
Analysis No.: 6

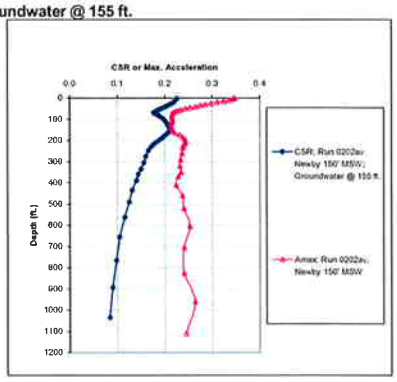
of Soil Layers: 50
ak Acceleration Values: 50

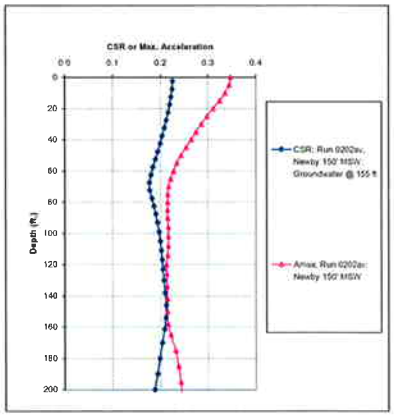
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.2	454.3	0.0153	69.5	427.6	0	0.347	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.8	485.5	0.0429	207.6	442.0	5	0.344	Waste (K&M)	Waste (K&M)
3	12.5	0.08	10	543.2	0.0633	342.5	467.6	10	0.335	Waste (K&M)	Waste (K&M)
4	17.5	0.08	10.8	605.0	0.0788	473.6	493.4	15	0.324	Waste (K&M)	Waste (K&M)
5	22.5	0.08	11.4	646.4	0.0936	599.4	509.6	20	0.310	Waste (K&M)	Waste (K&M)
6	27.5	0.08	11.7	716.5	0.1014	719.3	536.6	25	0.298	Waste (K&M)	Waste (K&M)
7	32.5	0.08	12.1	761.5	0.1104	833.2	553.6	30	0.286	Waste (K&M)	Waste (K&M)
8	37.5	0.08	12.4	809.9	0.1173	940.9	570.9	35	0.275	Waste (K&M)	Waste (K&M)
9	42.5	0.08	12.6	860.8	0.1224	1043.2	588.5	40	0.265	Waste (K&M)	Waste (K&M)
10	47.5	0.09	12.3	1042.6	0.1108	1145.1	610.7	45	0.253	Waste (K&M)	Waste (K&M)
11	52.5	0.09	12.5	1105.9	0.1138	1246.9	628.9	50	0.243	Waste (K&M)	Waste (K&M)
12	57.5	0.09	12.8	1134.1	0.1195	1341.8	636.9	55	0.234	Waste (K&M)	Waste (K&M)
13	62.5	0.09	12.9	1201.5	0.1207	1435.9	655.6	60	0.227	Waste (K&M)	Waste (K&M)
14	67.5	0.09	13	1271.2	0.1214	1528.7	674.3	65	0.222	Waste (K&M)	Waste (K&M)
15	72.5	0.09	13.1	1343.7	0.1215	1616.2	693.3	70	0.217	Waste (K&M)	Waste (K&M)
16	77.5	0.09	13.3	1376.5	0.1247	1698.9	701.7	75	0.215	Waste (K&M)	Waste (K&M)
17	82.5	0.09	13.3	1453.5	0.1236	1778.0	721.0	80	0.215	Waste (K&M)	Waste (K&M)
18	87.5	0.09	13.5	1488.7	0.1259	1854.9	729.7	85	0.215	Waste (K&M)	Waste (K&M)
19	93	0.09	13.5	1569.2	0.1246	1934.9	749.2	90	0.215	Waste (K&M)	Waste (K&M)
20	99	0.09	13.6	1651.6	0.1234	2016.3	768.6	96	0.216	Waste (K&M)	Waste (K&M)
21	105	0.09	13.6	1736.8	0.1218	2092.0	788.2	102	0.216	Waste (K&M)	Waste (K&M)
22	111	0.09	13.7	1776.8	0.1233	2168.4	797.2	108	0.216	Waste (K&M)	Waste (K&M)
23	117	0.09	13.7	1865.5	0.1214	2237.9	816.8	114	0.215	Waste (K&M)	Waste (K&M)
24	123	0.09	13.7	1956.6	0.1193	2306.8	836.5	120	0.213	Waste (K&M)	Waste (K&M)
25	130	0.09	13.8	1998.3	0.1211	2389.3	845.4	126	0.213	Waste (K&M)	Waste (K&M)
26	138	0.09	13.9	2090.0	0.1206	2488.2	864.6	134	0.214	Waste (K&M)	Waste (K&M)
27	146	0.09	13.9	2184.3	0.1199	2584.3	883.9	142	0.214	Waste (K&M)	Waste (K&M)
28	154	0.12	14.8	1067.9	0.2932	2688.1	528.0	150	0.214	Clay PI=22	Clay PI=22
29	161.5	0.125	20.8	835.6	0.4466	2799.4	454.2	158	0.216	EPRI 51'-120'	EPRI 51'-120'
30	170	0.127	17.6	859.7	0.4196	2911.1	460.1	165	0.222	Clay PI=19	Clay PI=19
31	180	0.127	17.5	946.9	0.3975	3033.6	483.0	175	0.232	Clay PI=19	Clay PI=19
32	190	0.127	17.4	997.3	0.3927	3147.3	495.9	185	0.238	Clay PI=19	Clay PI=19
33	200	0.127	17.7	971.1	0.4218	3239.6	489.0	195	0.243	Clay PI=19	Clay PI=19
34	210	0.127	19.2	1427.2	0.3065	3303.3	591.8	205	0.244	EPRI 51'-120'	EPRI 51'-120'
35	220	0.127	19.3	1457.9	0.3108	3371.8	597.8	215	0.242	EPRI 51'-120'	EPRI 51'-120'
36	230	0.127	19.7	1427.0	0.3323	3465.2	590.7	225	0.238	EPRI 51'-120'	EPRI 51'-120'
37	247.5	0.127	16.3	1749.7	0.2576	3640.2	658.6	235	0.238	EPRI 121-250	EPRI 121-250
38	275	0.127	14.4	2359.3	0.1968	3948.2	767.2	260	0.237	EPRI 121-250	EPRI 121-250
39	305	0.128	13.4	2849.4	0.1710	4319.1	841.4	290	0.233	EPRI 121-250	EPRI 121-250
40	335	0.128	13.1	2957.1	0.1742	4618.1	857.4	320	0.232	EPRI 121-250	EPRI 121-250
41	360	0.128	5	11204.1	0.0439	4795.0	1677.8	350	0.234	EPRI 251-500	EPRI 251-500
42	390	0.128	8.4	4847.5	0.1102	5069.1	1101.9	370	0.228	EPRI 251-500	EPRI 251-500
43	435	0.129	8.7	4902.5	0.1155	5354.8	1103.7	410	0.224	EPRI 251-500	EPRI 251-500
44	490	0.129	7.1	6812.6	0.0893	5806.0	1301.9	460	0.238	EPRI 251-500	EPRI 251-500
45	562.5	0.13	7.7	7066.8	0.0934	6251.7	1320.5	520	0.240	EPRI 251-500	EPRI 251-500
46	655	0.131	5.1	9660.4	0.0720	6668.3	1539.3	605	0.253	EPRI501-1000	EPRI501-1000
47	765	0.132	5	10964.5	0.0706	7408.1	1633.7	705	0.240	EPRI501-1000	EPRI501-1000
48	892.5	0.133	5.1	11926.6	0.0703	8023.7	1697.5	825	0.241	EPRI501-1000	EPRI501-1000
49	1035	0.135	5.1	22022.7	0.0410	8802.1	2290.9	960	0.263	EPRI501-1000	EPRI501-1000
50	Base							1110	0.245		

Run 0202av; Newby 150' MSW; Groundwater @ 155 ft.

Groundwater Depth =	155.0 ft.
PGA =	.347 g
Amax =	.347 g
CSR Max =	0.226
CSR Min =	0.084

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.226
10	600.0	0.225
15	1,000.0	0.223
20	1,400.0	0.220
25	1,800.0	0.216
30	2,200.0	0.213
35	2,600.0	0.208
40	3,000.0	0.204
45	3,400.0	0.199
50	3,825.0	0.195
55	4,275.0	0.190
60	4,725.0	0.185
65	5,175.0	0.180
70	5,625.0	0.177
75	5,910.0	0.177
80	6,057.0	0.182
85	6,195.0	0.187
90	6,333.0	0.190
96	6,484.8	0.194
102	6,650.4	0.197
108	6,816.0	0.200
114	6,981.6	0.202
120	7,147.2	0.204
126	7,312.8	0.205
134	7,508.0	0.207
142	7,726.8	0.209
150	7,947.6	0.211
158	8,288.4	0.211
165	8,737.9	0.208
175	9,280.0	0.204
185	9,926.0	0.199
195	10,572.0	0.194
205	11,218.0	0.188
215	11,864.0	0.181
225	12,510.0	0.175
235	13,156.0	0.171
260	14,286.5	0.166
290	16,063.0	0.160
320	18,018.0	0.156
350	19,984.0	0.150
370	21,624.0	0.144
410	23,592.0	0.140
460	26,559.0	0.131
520	30,232.0	0.125
605	35,103.0	0.116
705	41,406.0	0.105
825	49,012.0	0.098
960	57,953.5	0.090
1110	68,164.0	0.084





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

dentification: Newby 180' MSW
el Deposit Number 7
or Soil Column 3.29 sec
Velocity for Soil Column 1384 ft/sec
Analysis No 7

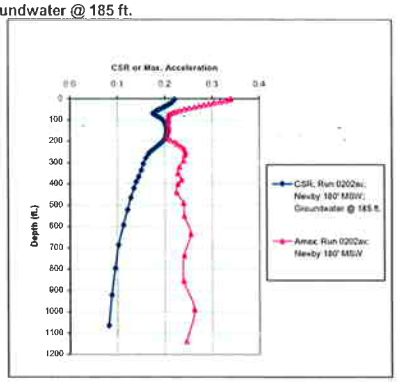
of Soil Layers: 50
ak Acceleration Values: 50

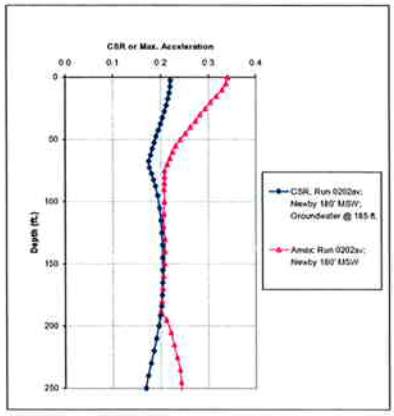
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6	454.4	0.0149	67.8	427.7	0	0.340	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.5	485.9	0.0418	202.6	442.2	5	0.337	Waste (K&M)	Waste (K&M)
3	12.5	0.08	9.700001	543.9	0.0618	334.5	467.9	10	0.329	Waste (K&M)	Waste (K&M)
4	17.5	0.08	10.4	605.9	0.0768	462.4	493.8	15	0.317	Waste (K&M)	Waste (K&M)
5	22.5	0.08	11	646.8	0.0912	585.4	510.2	20	0.304	Waste (K&M)	Waste (K&M)
6	27.5	0.08	11.3	717.2	0.0988	702.7	537.2	25	0.293	Waste (K&M)	Waste (K&M)
7	32.5	0.08	11.7	763.2	0.1078	814.4	554.2	30	0.283	Waste (K&M)	Waste (K&M)
8	37.5	0.08	12	811.7	0.1147	920.9	571.5	35	0.273	Waste (K&M)	Waste (K&M)
9	42.5	0.08	12.2	863.0	0.1197	1021.6	589.3	40	0.263	Waste (K&M)	Waste (K&M)
10	47.5	0.09	11.9	1044.5	0.1085	1121.8	611.2	45	0.252	Waste (K&M)	Waste (K&M)
11	52.5	0.09	12.1	1107.6	0.1117	1224.6	629.4	50	0.241	Waste (K&M)	Waste (K&M)
12	57.5	0.09	12.3	1173.2	0.1142	1326.5	647.8	55	0.231	Waste (K&M)	Waste (K&M)
13	62.5	0.09	12.5	1202.4	0.1197	1424.2	655.8	60	0.224	Waste (K&M)	Waste (K&M)
14	67.5	0.09	12.6	1272.3	0.1204	1516.2	674.6	65	0.219	Waste (K&M)	Waste (K&M)
15	72.5	0.09	12.8	1303.8	0.1243	1603.1	682.9	70	0.213	Waste (K&M)	Waste (K&M)
16	77.5	0.09	12.9	1378.1	0.1235	1684.7	702.1	75	0.208	Waste (K&M)	Waste (K&M)
17	82.5	0.09	12.9	1454.9	0.1224	1762.7	721.4	80	0.208	Waste (K&M)	Waste (K&M)
18	87.5	0.09	13	1490.3	0.1247	1839.9	730.1	85	0.208	Waste (K&M)	Waste (K&M)
19	95	0.09	13.2	1567.7	0.1255	1946.2	748.8	90	0.207	Waste (K&M)	Waste (K&M)
20	105	0.09	13.3	1691.6	0.1240	2074.8	777.8	100	0.208	Waste (K&M)	Waste (K&M)
21	115	0.09	13.3	1822.2	0.1215	2188.3	807.3	110	0.207	Waste (K&M)	Waste (K&M)
22	125	0.09	13.4	1957.7	0.1187	2296.6	836.8	120	0.206	Waste (K&M)	Waste (K&M)
23	135	0.105	12.8	2427.3	0.1005	2417.6	862.7	130	0.208	Waste (K&M)	Waste (K&M)
24	145	0.105	12.8	2594.8	0.0994	2554.2	891.9	140	0.208	Waste (K&M)	Waste (K&M)
25	155	0.105	13	2705.2	0.1003	2686.5	910.7	150	0.208	Waste (K&M)	Waste (K&M)
26	165	0.105	13	2883.6	0.0986	2814.6	940.3	160	0.206	Waste (K&M)	Waste (K&M)
27	175	0.105	13	3068.0	0.0968	2942.4	969.9	170	0.204	Waste (K&M)	Waste (K&M)
28	184	0.12	14.9	1174.6	0.3049	3063.3	555.9	180	0.202	Clay PI=22	Clay PI=22
29	191.5	0.125	22.4	986.1	0.4324	3160.5	493.4	188	0.200	EPRI 51'-120'	EPRI 51'-120'
30	200	0.127	18.4	1010.0	0.4020	3272.8	498.8	195	0.212	Clay PI=19	Clay PI=19
31	210	0.127	18.2	1068.5	0.3947	3378.9	513.1	205	0.221	Clay PI=19	Clay PI=19
32	220	0.127	18	1178.1	0.3673	3470.2	539.1	215	0.227	Clay PI=19	Clay PI=19
33	230	0.127	18.3	1158.4	0.3878	3541.1	534.1	225	0.234	Clay PI=19	Clay PI=19
34	240	0.127	20.1	1606.3	0.2993	3594.8	627.6	235	0.240	EPRI 51'-120'	EPRI 51'-120'
35	250	0.127	20.2	1642.7	0.3010	3658.0	634.5	245	0.242	EPRI 51'-120'	EPRI 51'-120'
36	260	0.127	20.6	1605.6	0.3182	3761.8	627.1	255	0.243	EPRI 51'-120'	EPRI 51'-120'
37	277.5	0.127	17	1969.9	0.2455	3909.2	699.3	265	0.242	EPRI 121-250	EPRI 121-250
38	305	0.127	14.9	2635.6	0.1879	4190.1	811.9	290	0.239	EPRI 121-250	EPRI 121-250
39	335	0.128	13.8	3079.7	0.1677	4542.7	874.6	320	0.230	EPRI 121-250	EPRI 121-250
40	365	0.128	13.6	3203.9	0.1690	4819.9	892.2	350	0.227	EPRI 121-250	EPRI 121-250
41	390	0.128	5.2	12001.6	0.0427	4988.9	1736.4	380	0.235	EPRI 251-500	EPRI 251-500
42	420	0.128	8.7	5185.1	0.1069	5244.6	1139.6	400	0.227	EPRI 251-500	EPRI 251-500
43	465	0.129	8.900001	5140.5	0.1143	5546.4	1130.1	440	0.224	EPRI 251-500	EPRI 251-500
44	520	0.129	7	7229.9	0.0860	5950.5	1341.2	490	0.239	EPRI 251-500	EPRI 251-500
45	592.5	0.13	7.5	7386.0	0.0909	6365.6	1350.1	550	0.241	EPRI 251-500	EPRI 251-500
46	685	0.131	5	10042.6	0.0701	6763.4	1569.6	635	0.255	EPRI501-1000	EPRI501-1000
47	795	0.132	4.9	11387.6	0.0683	7453.6	1665.0	735	0.241	EPRI501-1000	EPRI501-1000
48	922.5	0.133	5	12213.8	0.0692	8092.9	1717.8	855	0.239	EPRI501-1000	EPRI501-1000
49	1065	0.135	5	22025.2	0.0410	8792.7	2291.0	990	0.262	EPRI501-1000	EPRI501-1000
50	Base							1140	0.246		

Run 0202av; Newby 180' MSW; Groundwater @ 185 ft.

Groundwater Depth =	185.0 ft.
PGA =	.340 g
Amax =	.340 g
CSR Max =	0.220
CSR Min =	0.082

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.220
10	600.0	0.219
15	1,000.0	0.217
20	1,400.0	0.215
25	1,800.0	0.211
30	2,200.0	0.208
35	2,600.0	0.204
40	3,000.0	0.200
45	3,400.0	0.195
50	3,825.0	0.191
55	4,275.0	0.186
60	4,725.0	0.182
65	5,175.0	0.179
70	5,625.0	0.175
75	5,919.0	0.176
80	6,057.0	0.181
85	6,195.0	0.185
90	6,333.0	0.189
100	6,540.0	0.193
110	6,816.0	0.198
120	7,092.0	0.201
130	7,368.0	0.203
140	7,719.0	0.204
150	8,145.0	0.204
160	8,571.0	0.204
170	8,997.0	0.203
180	9,423.0	0.203
188	9,866.4	0.202
195	10,315.9	0.199
205	10,858.0	0.196
215	11,504.0	0.191
225	12,150.0	0.186
235	12,796.0	0.180
245	13,442.0	0.174
255	14,088.0	0.169
265	14,734.0	0.166
290	15,864.5	0.160
320	17,641.0	0.154
350	19,594.0	0.151
380	21,562.0	0.145
400	23,202.0	0.140
440	25,170.0	0.135
490	28,147.0	0.128
550	31,810.0	0.122
635	36,681.0	0.113
735	42,984.0	0.102
855	50,590.0	0.096
990	59,531.5	0.088
1140	69,742.0	0.082





dentification: Newby 220' MSW
el Deposit Number: 8
for Soil Column: 3.4 sec
Velocity for Soil Column: 1388 ft/sec
Analysis No.: 8

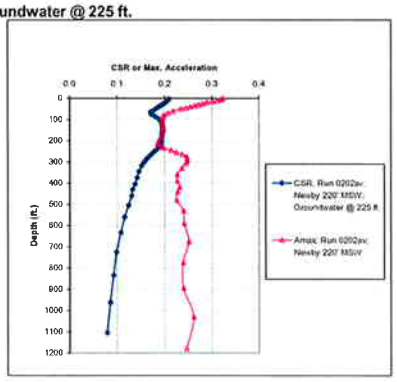
of Soil Layers: 50
ak Acceleration Values: 50

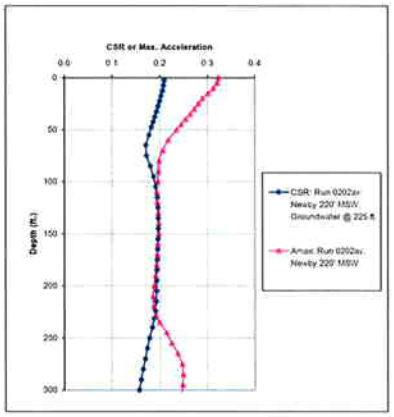
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.9	454.7	0.0142	64.4	427.8	0	0.323	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.299999	486.8	0.0395	191.9	442.6	5	0.321	Waste (K&M)	Waste (K&M)
3	12.5	0.08	9.3	545.5	0.0583	316.4	468.5	10	0.313	Waste (K&M)	Waste (K&M)
4	17.5	0.08	10	608.4	0.0722	436.4	494.8	15	0.301	Waste (K&M)	Waste (K&M)
5	22.5	0.08	10.6	649.8	0.0857	552.3	511.4	20	0.289	Waste (K&M)	Waste (K&M)
6	27.5	0.08	10.9	720.9	0.0929	664.4	538.6	25	0.280	Waste (K&M)	Waste (K&M)
7	32.5	0.08	11.3	767.4	0.1016	772.2	555.7	30	0.273	Waste (K&M)	Waste (K&M)
8	37.5	0.08	11.6	816.0	0.1085	875.7	573.0	35	0.264	Waste (K&M)	Waste (K&M)
9	42.5	0.09	11.3	987.6	0.1002	980.5	594.4	40	0.254	Waste (K&M)	Waste (K&M)
10	47.5	0.09	11.6	1047.8	0.1049	1087.4	612.2	45	0.245	Waste (K&M)	Waste (K&M)
11	55	0.09	11.9	1105.7	0.1137	1242.8	628.9	50	0.235	Waste (K&M)	Waste (K&M)
12	65	0.09	12.3	1201.2	0.1206	1432.7	655.5	60	0.218	Waste (K&M)	Waste (K&M)
13	75	0.09	12.4	1344.8	0.1203	1601.0	693.6	70	0.207	Waste (K&M)	Waste (K&M)
14	85	0.09	12.6	1455.5	0.1217	1753.1	721.5	80	0.198	Waste (K&M)	Waste (K&M)
15	95	0.09	12.7	1572.7	0.1217	1894.1	750.0	90	0.197	Waste (K&M)	Waste (K&M)
16	105	0.09	12.8	1696.8	0.1203	2020.1	779.0	100	0.195	Waste (K&M)	Waste (K&M)
17	115	0.09	12.9	1827.7	0.1179	2132.3	808.5	110	0.194	Waste (K&M)	Waste (K&M)
18	125	0.09	12.9	1963.5	0.1151	2236.0	838.0	120	0.194	Waste (K&M)	Waste (K&M)
19	135	0.105	12.4	2434.1	0.0973	2348.1	863.9	130	0.197	Waste (K&M)	Waste (K&M)
20	145	0.105	12.4	2602.8	0.0959	2474.9	893.3	140	0.198	Waste (K&M)	Waste (K&M)
21	155	0.105	12.5	2714.6	0.0965	2596.5	912.3	150	0.198	Waste (K&M)	Waste (K&M)
22	165	0.105	12.5	2894.1	0.0946	2713.5	942.0	160	0.196	Waste (K&M)	Waste (K&M)
23	175	0.105	12.5	3079.9	0.0927	2829.2	971.8	170	0.195	Waste (K&M)	Waste (K&M)
24	185	0.105	12.6	3203.1	0.0928	2946.3	991.0	180	0.193	Waste (K&M)	Waste (K&M)
25	195	0.105	12.7	3328.1	0.0930	3066.4	1010.2	190	0.191	Waste (K&M)	Waste (K&M)
26	205	0.105	12.7	3526.6	0.0912	3187.4	1039.8	200	0.188	Waste (K&M)	Waste (K&M)
27	215	0.105	12.7	3657.4	0.0913	3306.3	1058.9	210	0.186	Waste (K&M)	Waste (K&M)
28	224	0.12	14.9	1308.5	0.3085	3411.2	586.5	220	0.187	Clay PI=22	Clay PI=22
29	231.5	0.125	23.6	1062.3	0.4555	3484.6	511.3	228	0.192	EPRI 51'-120'	EPRI 51'-120'
30	240	0.127	19.2	1063.8	0.4280	3570.3	511.1	235	0.199	Clay PI=19	Clay PI=19
31	250	0.127	18.9	1180.9	0.3936	3642.9	538.8	245	0.214	Clay PI=19	Clay PI=19
32	260	0.127	18.7	1252.0	0.3783	3719.2	555.2	255	0.224	Clay PI=19	Clay PI=19
33	270	0.127	18.9	1230.6	0.3961	3790.8	550.3	265	0.237	Clay PI=19	Clay PI=19
34	280	0.127	20.9	1746.0	0.2975	3848.5	654.5	275	0.247	EPRI 51'-120'	EPRI 51'-120'
35	290	0.127	20.8	1714.2	0.3117	3920.6	648.3	285	0.248	EPRI 51'-120'	EPRI 51'-120'
36	300	0.127	21.1	1684.2	0.3258	3988.4	642.4	295	0.248	EPRI 51'-120'	EPRI 51'-120'
37	317.5	0.127	17.4	2088.6	0.2447	4109.8	720.1	305	0.245	EPRI 121-250	EPRI 121-250
38	345	0.127	15.4	2705.6	0.1938	4390.8	821.1	330	0.236	EPRI 121-250	EPRI 121-250
39	375	0.128	14.4	3266.1	0.1641	4678.9	900.3	360	0.226	EPRI 121-250	EPRI 121-250
40	405	0.128	14	3325.4	0.1703	4961.2	908.4	390	0.227	EPRI 121-250	EPRI 121-250
41	430	0.128	5.3	12558.1	0.0419	5108.5	1776.2	420	0.232	EPRI 251-500	EPRI 251-500
42	450	0.128	8.000001	5446.2	0.1057	5420.3	1167.8	440	0.227	EPRI 251-500	EPRI 251-500
43	505	0.129	9.099999	5390.3	0.1132	5729.4	1157.0	480	0.225	EPRI 251-500	EPRI 251-500
44	560	0.129	7.3	7433.0	0.0847	6017.8	1359.9	530	0.240	EPRI 251-500	EPRI 251-500
45	632.5	0.13	7.3	7621.6	0.0884	6388.7	1371.4	590	0.241	EPRI 251-500	EPRI 251-500
46	725	0.131	4.8	10309.0	0.0685	6703.2	1590.3	675	0.251	EPRI501-1000	EPRI501-1000
47	835	0.132	4.8	11516.3	0.0676	7485.3	1674.5	775	0.239	EPRI501-1000	EPRI501-1000
48	962.5	0.133	4.8	12517.5	0.0674	8099.3	1739.2	895	0.240	EPRI501-1000	EPRI501-1000
49	1105	0.135	4.9	22045.2	0.0407	8738.0	2292.1	1030	0.262	EPRI501-1000	EPRI501-1000
50	Base							1180	0.247		

Run 0202av; Newby 220' MSW; Groundwater @ 225 ft.

Groundwater Depth =	225.0 ft.
PGA =	.323 g
Amax =	.325 g
CSR Max =	0.209
CSR Min =	0.079

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.209
10	600.0	0.208
15	1,000.0	0.206
20	1,400.0	0.203
25	1,800.0	0.199
30	2,200.0	0.196
35	2,600.0	0.193
40	3,000.0	0.190
45	3,425.0	0.186
50	3,875.0	0.182
60	4,550.0	0.178
70	5,450.0	0.171
80	6,038.0	0.172
90	6,314.0	0.180
100	6,590.0	0.187
110	6,866.0	0.191
120	7,142.0	0.194
130	7,418.0	0.196
140	7,769.0	0.196
150	8,195.0	0.196
160	8,621.0	0.196
170	9,047.0	0.195
180	9,473.0	0.194
190	9,899.0	0.193
200	10,325.0	0.193
210	10,751.0	0.193
220	11,177.0	0.192
228	11,620.4	0.191
235	12,069.9	0.188
245	12,612.0	0.184
255	13,258.0	0.179
265	13,904.0	0.174
275	14,550.0	0.169
285	15,196.0	0.165
295	15,842.0	0.161
305	16,488.0	0.157
330	17,918.5	0.152
360	19,395.0	0.147
390	21,348.0	0.142
420	23,316.0	0.138
440	24,956.0	0.133
480	26,924.0	0.131
530	29,901.0	0.125
590	33,564.0	0.117
675	38,435.0	0.108
775	44,738.0	0.099
895	52,344.0	0.093
1030	61,285.5	0.086
1180	71,496.0	0.079





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

dentification: Newby 275' MSW
al Deposit Number 9
or Soil Column 3.57 sec
: Velocity for Soil Column 1384 ft/sec
Analysis No 9

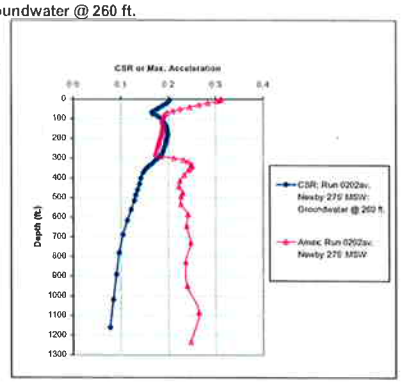
of Soil Layers: 50
ak Acceleration Values: 50

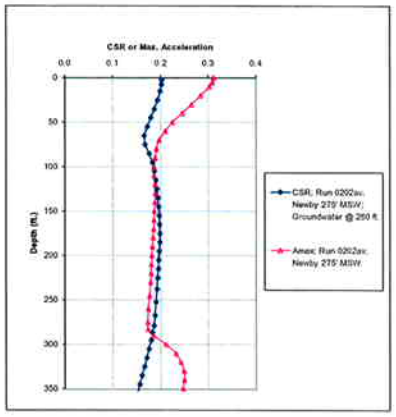
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.8	454.9	0.0137	62.4	427.9	0	0.311	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.1	487.3	0.0384	186.4	442.9	5	0.309	Waste (K&M)	Waste (K&M)
3	15	0.08	9.6	565.0	0.0654	367.6	476.9	10	0.302	Waste (K&M)	Waste (K&M)
4	25	0.08	10.7	645.8	0.0931	596.0	509.8	20	0.284	Waste (K&M)	Waste (K&M)
5	35	0.08	11.3	764.0	0.1065	805.4	554.5	30	0.264	Waste (K&M)	Waste (K&M)
6	45	0.08	11.7	865.2	0.1164	995.4	590.0	40	0.246	Waste (K&M)	Waste (K&M)
7	55	0.08	12	976.5	0.1211	1168.3	626.8	50	0.225	Waste (K&M)	Waste (K&M)
8	65	0.08	12.3	1062.3	0.1264	1326.6	653.8	60	0.210	Waste (K&M)	Waste (K&M)
9	75	0.08	12.4	1190.2	0.1248	1467.6	692.0	70	0.197	Waste (K&M)	Waste (K&M)
10	85	0.09	12.1	1470.9	0.1103	1606.1	725.3	80	0.192	Waste (K&M)	Waste (K&M)
11	95	0.09	12.2	1589.1	0.1106	1740.7	753.9	90	0.189	Waste (K&M)	Waste (K&M)
12	105	0.09	12.3	1713.5	0.1098	1862.4	782.9	100	0.187	Waste (K&M)	Waste (K&M)
13	115	0.09	12.4	1843.5	0.1081	1972.4	812.0	110	0.186	Waste (K&M)	Waste (K&M)
14	125	0.09	12.4	1979.2	0.1060	2076.8	841.4	120	0.188	Waste (K&M)	Waste (K&M)
15	135	0.09	12.5	2068.8	0.1066	2181.6	860.2	130	0.189	Waste (K&M)	Waste (K&M)
16	145	0.09	12.5	2213.6	0.1042	2282.5	889.8	140	0.188	Waste (K&M)	Waste (K&M)
17	155	0.09	12.5	2309.8	0.1041	2379.6	909.0	150	0.187	Waste (K&M)	Waste (K&M)
18	165	0.09	12.5	2464.1	0.1014	2473.3	938.8	160	0.186	Waste (K&M)	Waste (K&M)
19	175	0.09	12.5	2623.7	0.0988	2566.2	968.8	170	0.186	Waste (K&M)	Waste (K&M)
20	185	0.105	11.9	3228.2	0.0832	2665.7	994.9	180	0.185	Waste (K&M)	Waste (K&M)
21	195	0.105	12	3354.5	0.0835	2776.9	1014.2	190	0.183	Waste (K&M)	Waste (K&M)
22	205	0.105	12	3552.2	0.0821	2892.2	1043.6	200	0.181	Waste (K&M)	Waste (K&M)
23	215	0.105	12	3684.3	0.0823	3006.2	1062.0	210	0.181	Waste (K&M)	Waste (K&M)
24	225	0.105	12.1	3819.3	0.0823	3115.5	1082.2	220	0.180	Waste (K&M)	Waste (K&M)
25	237.5	0.105	12.1	4029.8	0.0813	3246.2	1111.6	230	0.179	Waste (K&M)	Waste (K&M)
26	252.5	0.105	12.1	4244.5	0.0808	3398.9	1140.8	245	0.177	Waste (K&M)	Waste (K&M)
27	267.5	0.105	12.2	4465.3	0.0803	3551.8	1170.1	260	0.175	Waste (K&M)	Waste (K&M)
28	279	0.12	14.7	1478.7	0.2966	3668.7	623.4	275	0.173	Clay PI=22	Clay PI=22
29	286.5	0.125	24.4	1068.2	0.5070	3737.2	511.3	283	0.173	EPRI 51'-120'	EPRI 51'-120'
30	295	0.127	19.8	1082.4	0.4587	3829.5	515.3	290	0.185	Clay PI=19	Clay PI=19
31	305	0.127	19.4	1197.0	0.4197	3904.5	542.7	300	0.212	Clay PI=19	Clay PI=19
32	315	0.127	19.1	1271.1	0.4019	3973.8	559.3	310	0.232	Clay PI=19	Clay PI=19
33	325	0.127	19.3	1253.5	0.4173	4027.5	555.3	320	0.242	Clay PI=19	Clay PI=19
34	335	0.127	21.4	1776.6	0.3115	4055.5	659.9	330	0.249	EPRI 51'-120'	EPRI 51'-120'
35	345	0.127	21.4	1759.1	0.3198	4090.2	656.5	340	0.250	EPRI 51'-120'	EPRI 51'-120'
36	355	0.127	21.6	1741.9	0.3281	4130.0	653.1	350	0.247	EPRI 51'-120'	EPRI 51'-120'
37	372.5	0.127	17.8	2175.9	0.2429	4240.2	734.8	360	0.243	EPRI 121-250	EPRI 121-250
38	400	0.127	15.7	2821.7	0.1926	4500.9	838.1	385	0.234	EPRI 121-250	EPRI 121-250
39	430	0.128	14.7	3304.6	0.1707	4832.0	904.9	415	0.225	EPRI 121-250	EPRI 121-250
40	460	0.128	14.3	3448.5	0.1700	5097.0	924.6	445	0.223	EPRI 121-250	EPRI 121-250
41	485	0.128	5.4	12795.3	0.0425	5266.8	1792.7	475	0.230	EPRI 251-500	EPRI 251-500
42	515	0.128	9.099999	5499.4	0.1084	5566.6	1173.1	495	0.227	EPRI 251-500	EPRI 251-500
43	560	0.129	9.3	5461.4	0.1144	5819.7	1164.2	535	0.227	EPRI 251-500	EPRI 251-500
44	615	0.129	7.4	7550.6	0.0845	6059.5	1370.3	585	0.242	EPRI 251-500	EPRI 251-500
45	687.5	0.13	7.5	7749.7	0.0865	6358.0	1382.8	645	0.238	EPRI 251-500	EPRI 251-500
46	780	0.131	4.8	10449.4	0.0673	6778.7	1601.2	730	0.247	EPRI501-1000	EPRI501-1000
47	890	0.132	4.8	11670.0	0.0662	7449.5	1685.7	830	0.236	EPRI501-1000	EPRI501-1000
48	1017.5	0.133	4.8	12681.4	0.0661	8062.3	1750.8	950	0.240	EPRI501-1000	EPRI501-1000
49	1150	0.135	4.7	22076.5	0.0402	8676.9	2293.8	1085	0.264	EPRI501-1000	EPRI501-1000
50	Base							1235	0.247		

Run 0202av; Newby 275' MSW; Groundwater @ 260 ft.

Groundwater Depth =	260.0 ft.
PGA =	.311 g
Amax =	.316 g
CSR Max =	0.203
CSR Min =	0.078

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.203
10	600.0	0.202
20	1,200.0	0.199
30	2,000.0	0.194
40	2,800.0	0.187
50	3,600.0	0.180
60	4,400.0	0.173
70	5,200.0	0.166
80	5,888.0	0.168
90	5,914.0	0.177
100	6,190.0	0.183
110	6,466.0	0.187
120	6,742.0	0.190
130	7,018.0	0.192
140	7,294.0	0.194
150	7,570.0	0.196
160	7,846.0	0.197
170	8,122.0	0.198
180	8,398.0	0.199
190	8,749.0	0.198
200	9,175.0	0.197
210	9,601.0	0.196
220	10,027.0	0.195
230	10,453.0	0.194
245	10,985.5	0.192
260	11,624.5	0.190
275	12,263.5	0.188
283	12,813.4	0.186
290	13,282.9	0.183
300	13,805.0	0.180
310	14,451.0	0.176
320	15,097.0	0.171
330	15,743.0	0.166
340	16,389.0	0.161
350	17,035.0	0.156
360	17,681.0	0.152
385	18,811.5	0.147
415	20,588.0	0.142
445	22,541.0	0.139
475	24,509.0	0.135
495	26,149.0	0.131
535	28,117.0	0.129
585	31,094.0	0.122
645	34,757.0	0.113
730	39,628.0	0.104
830	45,931.0	0.096
950	53,537.0	0.090
1085	62,478.5	0.084
1235	72,689.0	0.078





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.379 g
Max EQ PGA for All Soil Profiles =	.401 g
Min EQ PGA for All Soil Profiles =	.301 g

U. Wt. of Water =	62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.86 sec
Average Shear Wave Velocity for Soil Column: 1405 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

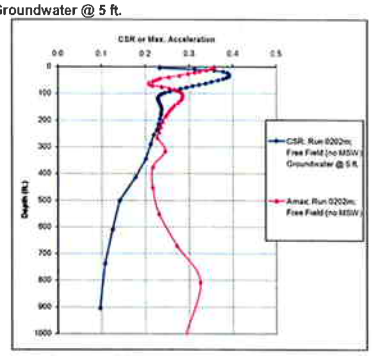
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

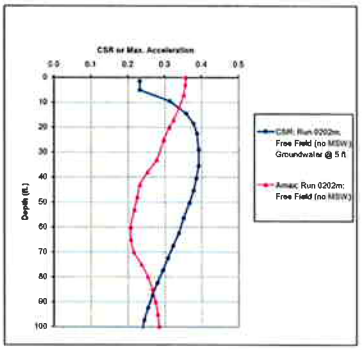
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3	935.5	0.00951	80.48	425.546	0	0.35607	Clay PI=30	Clay PI=30
2	5	0.113	5.5	528.7	0.03809	201.39	388.1444	3	0.35522	Clay PI=30	Clay PI=30
3	9.5	0.113	7.3	432.9	0.08796	380.74	351.2227	7	0.35058	Clay PI=30	Clay PI=30
4	14.5	0.113	8.2	451.5	0.12735	575.05	358.6888	12	0.33828	Clay PI=30	Clay PI=30
5	18.5	0.12	10.5	417.9	0.17498	731.25	334.8676	17	0.32304		
6	22.5	0.113	8	738.7	0.11884	875.44	458.1778	20	0.31102	Clay PI=30	Clay PI=30
7	29	0.125	7.6	1243.5	0.0685	1112.97	565.9731	25	0.29962	Sand Upper	Sand lower
8	35.5	0.127	11	835	0.18302	1361.29	460.1181	33	0.27981	Clay PI=19	Clay PI=19
9	40.5	0.127	11.2	878.8	0.17433	1532.1	472.0316	38	0.25227	Clay PI=19	Clay PI=19
10	45.5	0.127	11.7	847.6	0.19904	1686.98	463.6786	43	0.23158	Clay PI=19	Clay PI=19
11	50.5	0.127	11.5	961.4	0.18822	1819.1	493.7171	48	0.22449	Clay PI=19	Clay PI=19
12	56.5	0.125	10.3	1234.3	0.1576	1945.29	563.8756	53	0.21634	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	12.3	867.7	0.23861	2070.34	469.0411	60	0.20641	Clay PI=19	Clay PI=19
14	67.5	0.127	11.9	1010.1	0.21182	2139.65	506.0673	65	0.20748	Clay PI=19	Clay PI=19
15	72.5	0.127	12	1032.3	0.21266	2195.35	511.6982	70	0.21528	Clay PI=19	Clay PI=19
16	77.5	0.127	12.1	1015.6	0.2204	2238.35	507.4432	75	0.23616	Clay PI=19	Clay PI=19
17	82.5	0.127	11.8	1116.9	0.20289	2266.16	532.149	80	0.25329	Clay PI=19	Clay PI=19
18	87.5	0.127	11.9	1106.3	0.20731	2293.43	529.8177	85	0.26523	Clay PI=19	Clay PI=19
19	92.5	0.127	12	1081.4	0.21243	2318.55	526.0391	90	0.27396	Clay PI=19	Clay PI=19
20	97.5	0.127	12.1	1074.6	0.21789	2341.43	521.9747	95	0.2799	Clay PI=19	Clay PI=19
21	102.5	0.127	10.9	1533.4	0.15597	2391.66	623.5249	100	0.28338	Clay PI=19	Clay PI=19
22	107.5	0.127	10	1679.6	0.14906	2453.33	652.5729	105	0.28426	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	10.2	1648.2	0.15418	2541.22	646.4442	110	0.28386	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	10.4	1616.1	0.16351	2642.46	640.1182	115	0.28244	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	10.7	1569	0.17622	2764.9	630.7214	120	0.28058	EPRI 51-120'	EPRI 51-120'
26	130	0.127	8.6	1869.4	0.1577	2948.05	688.4576	125	0.2789	EPRI 121-250	EPRI 121-250
27	140	0.127	9.3	1772.6	0.18183	3223.05	670.3961	135	0.27361	EPRI 121-250	EPRI 121-250
28	150	0.127	9.9	1680.1	0.20768	3489.23	652.67	145	0.2646	EPRI 121-250	EPRI 121-250
29	160	0.127	10.5	1590.2	0.23508	3738.25	634.9681	155	0.25848	EPRI 121-250	EPRI 121-250
30	170	0.127	8.6	2510.9	0.15766	3958.73	797.8850	165	0.25368	EPRI 121-250	EPRI 121-250
31	180	0.127	8.5	2703	0.1545	4176.15	827.8452	175	0.2496	EPRI 121-250	EPRI 121-250
32	195	0.127	9.099999	2573	0.17463	4493.12	807.5923	185	0.24493	EPRI 121-250	EPRI 121-250
33	215	0.128	9.8	2451.6	0.19979	4897.96	785.306	205	0.23811	EPRI 121-250	EPRI 121-250
34	235	0.128	9.700001	2689.4	0.19572	5263.6	822.5279	225	0.23413	EPRI 121-250	EPRI 121-250
35	255	0.128	3.8	10577.4	0.05241	5543.25	1631.22	245	0.23052	EPRI 251-500	EPRI 251-500
36	290	0.128	6.7	4377.7	0.13922	6094.41	1049.412	265	0.22581	EPRI 251-500	EPRI 251-500
37	345	0.129	8.8	4866.3	0.142	6910.29	1102.129	315	0.24409	EPRI 251-500	EPRI 251-500
38	412.5	0.13	6.3	6090.8	0.12051	7339.89	1228.299	375	0.21626	EPRI 251-500	EPRI 251-500
39	500	0.131	3.8	8832.3	0.08072	7129.56	1473.429	450	0.21552	EPRI501-1000	EPRI501-1000
40	610	0.132	3.7	9918.5	0.07842	7778.16	1655.478	550	0.23046	EPRI501-1000	EPRI501-1000
41	737.5	0.133	3.5	11138.7	0.07326	8160.41	1842.175	670	0.27112	EPRI501-1000	EPRI501-1000
42	905	0.135	2.3	21977.5	0.04113	9040.24	2289.55	805	0.32626	EPRI501-1000	EPRI501-1000
43	Base							1005	0.29122		

Run 0202m; Free Field (no MSW); Groundwater @ 5 ft.

	66.2%
Groundwater Depth =	5.0 ft
PGA =	.356 g
Amax =	.356 g
CSR Max =	0.391
CSR Min =	0.096

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	169.5	0.232
7	565.0	0.232
12	792.7	0.312
17	1,045.7	0.357
20	1,258.6	0.378
25	1,471.6	0.387
33	1,848.4	0.391
38	2,260.3	0.391
43	2,683.3	0.388
48	2,906.3	0.377
53	3,229.3	0.366
60	3,609.9	0.350
65	3,990.5	0.337
70	4,313.5	0.322
75	4,636.5	0.306
80	4,959.5	0.293
85	5,282.5	0.279
90	5,605.5	0.266
95	5,928.5	0.254
100	6,251.5	0.243
105	6,574.5	0.236
110	6,897.5	0.231
115	7,220.5	0.229
120	7,543.5	0.228
125	7,866.5	0.228
135	8,351.0	0.229
145	8,997.0	0.233
155	9,643.0	0.235
165	10,289.0	0.236
175	10,935.0	0.235
185	11,581.0	0.234
205	12,550.0	0.233
225	13,852.0	0.230
245	15,184.0	0.226
265	16,476.0	0.219
315	18,772.0	0.211
375	22,410.0	0.200
450	26,943.0	0.177
550	32,906.0	0.141
670	40,514.0	0.125
805	49,455.5	0.107
1005	61,481.0	0.096





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.91 sec
Average Shear Wave Velocity for Soil Column: 1395 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

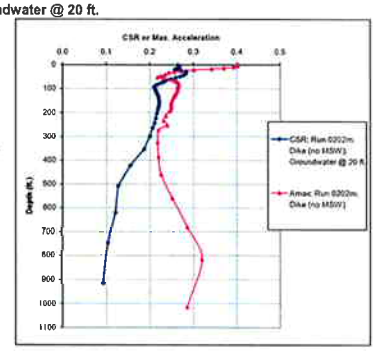
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

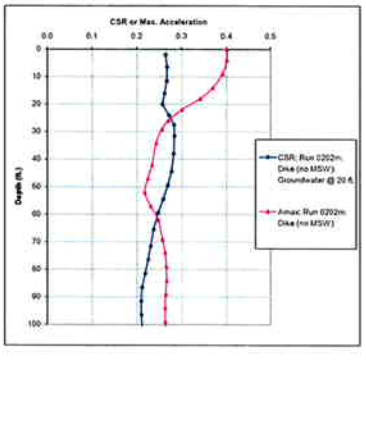
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	2.6	1719.6	0.00565	97.08	679.2834	0	0.4012	Clay PI=22	Clay PI=22
2	6.5	0.12	7.8	499.8	0.06806	319.79	355.0535	4	0.40059	Clay PI=22	Clay PI=22
3	11.5	0.12	10.4	346.2	0.15302	664.3	304.7901	9	0.39155	Clay PI=22	Clay PI=22
4	16	0.113	10.1	306.3	0.24821	765.21	296.3981	14	0.36947	Clay PI=30	Clay PI=30
5	20	0.113	11.1	272.3	0.34063	927.68	278.556	18	0.34116	Clay PI=30	Clay PI=30
6	24	0.113	10.5	378.5	0.29238	1068.77	328.414	22	0.3005	Clay PI=30	Clay PI=30
7	27.5	0.12	14.2	289.5	0.44328	1194.78	268.916	26	0.26622		
8	31.5	0.113	9.700001	604.4	0.21322	1286.77	416.0027	29	0.25502	Clay PI=30	Clay PI=30
9	38	0.125	9.700001	928	0.15571	1444.96	488.9303	34	0.24226	Sand Upper	Sand lower
10	44.5	0.127	12.1	734.2	0.21719	1594.50	431.4528	42	0.23341	Clay PI=19	Clay PI=19
11	49.5	0.127	12.4	700.7	0.23994	1681.3	421.4647	47	0.22369	Clay PI=19	Clay PI=19
12	54.5	0.127	12.7	676.2	0.25883	1747.56	413.7541	52	0.21677	Clay PI=19	Clay PI=19
13	59.5	0.127	12.2	760.5	0.22641	1789.70	447.6896	57	0.23026	Clay PI=19	Clay PI=19
14	65.5	0.126	10.2	1249.1	0.14891	1855.58	566.5645	62	0.24654	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	12.1	889.3	0.21852	1943.27	474.8432	69	0.2564	Clay PI=19	Clay PI=19
16	76.5	0.127	11.7	1030.4	0.19365	2007	512.6132	74	0.26229	Clay PI=19	Clay PI=19
17	81.5	0.127	11.7	1058.9	0.19431	2057.49	518.1476	79	0.26469	Clay PI=19	Clay PI=19
18	86.5	0.127	11.9	1041.2	0.20129	2095.93	513.7989	84	0.265	Clay PI=19	Clay PI=19
19	91.5	0.127	11.6	1141.2	0.19067	2175.69	537.9067	89	0.26377	Clay PI=19	Clay PI=19
20	96.5	0.127	11.9	1118.2	0.20496	2267.96	531.9822	94	0.26182	Clay PI=19	Clay PI=19
21	101.5	0.127	12	1088.4	0.22104	2405.74	525.3167	99	0.26252	Clay PI=19	Clay PI=19
22	106.5	0.127	12.3	1052	0.24036	2528.53	516.4567	104	0.26211	Clay PI=19	Clay PI=19
23	111.5	0.127	11.2	1481.8	0.1784	2643.56	612.9441	109	0.26138	Clay PI=19	Clay PI=19
24	116.5	0.127	10.6	1585.4	0.1744	2764.89	634.0091	114	0.26015	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	11	1535.6	0.18851	2894.71	623.972	119	0.2585	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	11.3	1488	0.2032	3023.53	614.2251	124	0.25663	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	11.7	1436.8	0.21928	3150.54	603.5652	129	0.2551	EPRI 51-120'	EPRI 51-120'
28	139	0.127	9.6	1738.3	0.19103	3320.78	663.8782	134	0.2541	EPRI 121-250	EPRI 121-250
29	149	0.127	10.1	1648.8	0.2158	3558.19	646.6818	144	0.25132	EPRI 121-250	EPRI 121-250
30	159	0.127	10.7	1568.5	0.24116	3782.47	630.6206	154	0.24866	EPRI 121-250	EPRI 121-250
31	169	0.127	11.1	1496.3	0.26696	3994.57	615.9357	164	0.24745	EPRI 121-250	EPRI 121-250
32	179	0.127	9	2418.6	0.17278	4178.7	783.0836	174	0.24838	EPRI 121-250	EPRI 121-250
33	189	0.127	8.900001	2623.3	0.16647	4366.85	815.549	184	0.24729	EPRI 121-250	EPRI 121-250
34	204	0.127	9.4	2512.8	0.18496	4648.03	798.1877	194	0.24438	EPRI 121-250	EPRI 121-250
35	224	0.128	10	2407.9	0.20652	5021.04	778.2913	214	0.23594	EPRI 121-250	EPRI 121-250
36	244	0.128	8.8	2653	0.20264	5375.94	816.9426	234	0.23055	EPRI 121-250	EPRI 121-250
37	264	0.128	3.9	10500.4	0.05424	5905.80	1625.271	254	0.23861	EPRI 251-500	EPRI 251-500
38	299	0.128	6.8	4341.5	0.14306	6210.92	1045.064	274	0.219	EPRI 251-500	EPRI 251-500
39	354	0.129	6.8	4862.7	0.14085	6848.94	1101.722	324	0.21662	EPRI 251-500	EPRI 251-500
40	421.5	0.13	6.1	6244.2	0.10842	6770.07	1243.64	384	0.21908	EPRI 251-500	EPRI 251-500
41	509	0.131	3.5	9046.8	0.07398	6693.19	1491.213	450	0.22607	EPRI501-1000	EPRI501-1000
42	619	0.132	3.7	9912.1	0.07861	7792.17	1554.976	559	0.25012	EPRI501-1000	EPRI501-1000
43	749.5	0.133	3.5	11181	0.07252	8105.19	1643.818	679	0.28456	EPRI501-1000	EPRI501-1000
44	914	0.135	2.3	21961.1	0.04096	9006.67	2290.256	814	0.31927	EPRI501-1000	EPRI501-1000
45	Base							1014	0.28454		

Run 0202m; Dike (no MSW); Groundwater @ 20 ft.

	87.0%
Groundwater Depth =	20.0 ft
PGA =	.401 g
Amax =	.401 g
CSR Max =	0.283
CSR Min =	0.093

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.263
9	780.0	0.268
14	1,380.0	0.268
18	1,906.0	0.261
22	2,358.0	0.258
26	2,690.4	0.271
29	2,748.0	0.283
34	2,960.9	0.283
42	3,337.8	0.281
47	3,749.7	0.278
52	4,072.7	0.268
57	4,395.7	0.258
62	4,718.7	0.247
69	5,099.3	0.237
74	5,479.9	0.231
79	5,802.9	0.225
84	6,125.9	0.218
89	6,448.9	0.211
94	6,771.9	0.209
99	7,094.9	0.210
104	7,417.9	0.211
109	7,740.9	0.212
114	8,063.9	0.213
119	8,386.9	0.214
124	8,709.9	0.216
129	9,032.9	0.218
134	9,355.9	0.219
144	9,840.4	0.219
154	10,486.4	0.221
164	11,132.4	0.221
174	11,778.4	0.220
184	12,424.4	0.219
194	13,070.4	0.217
214	14,039.4	0.215
234	15,341.4	0.213
254	16,653.4	0.210
274	17,965.4	0.206
324	20,261.4	0.199
384	23,899.4	0.186
459	28,432.4	0.155
559	34,397.4	0.126
679	42,003.4	0.121
814	50,944.9	0.103
1014	62,970.4	0.093





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.96 sec
Average Shear Wave Velocity for Soil Column: 1393 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

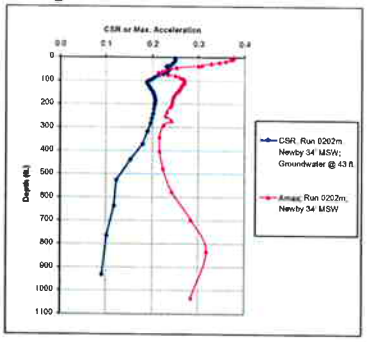
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.5	453.7	0.01887	78.56	427.3339	
2	7.5	0.08	9	507	0.04547	230.54	451.2383	
3	13	0.08	10.5	538.1	0.07416	399.08	465.3872	
4	19	0.08	11.4	596.5	0.09709	579.12	489.9911	
5	25	0.08	12	657.2	0.11465	753.46	514.318	
6	31	0.08	12.4	724.3	0.12698	919.72	539.9359	
7	35.5	0.12	8.5	1209.9	0.08637	1044.05	569.7864	
8	40.5	0.113	10.1	500	0.24528	1226.42	377.4624	
9	45.5	0.12	14.9	261.9	0.47037	1399.19	279.8687	
10	49.5	0.113	9.6	717.7	0.208	1478.52	452.2309	
11	56	0.125	9.700001	1055.5	0.15356	1620.79	521.4373	
12	62.5	0.127	11.9	831.9	0.21128	1757.54	459.2632	
13	67.5	0.127	12.2	802.6	0.2287	1835.55	451.1029	
14	72.5	0.127	12.4	780.4	0.24286	1885.36	444.8204	
15	77.5	0.127	12.1	885.8	0.21839	1934.51	473.9079	
16	83.5	0.125	9.9	1402.4	0.14103	1977.78	601.0476	
17	89.5	0.127	11.9	968.2	0.20904	2059.72	503.0775	
18	94.5	0.127	11.5	1154.7	0.18311	2114.46	541.078	
19	99.5	0.127	11.5	1182.2	0.18259	2158.64	547.4841	
20	104.5	0.127	11.6	1167.3	0.18842	2199.46	544.0231	
21	109.5	0.127	11.5	1248.4	0.18394	2295.36	562.6042	
22	114.5	0.127	11.6	1220.6	0.19997	2404.34	556.3047	
23	119.5	0.127	11.8	1190.5	0.21167	2518.72	549.4027	
24	124.5	0.127	12.1	1154.3	0.22859	2638.5	540.9852	
25	129.5	0.127	11.1	1570.9	0.17522	2752.49	631.1031	
26	134.5	0.127	10.4	1719.2	0.16701	2871.25	660.2209	
27	139.5	0.127	10.7	1667.9	0.17883	2999.4	650.206	
28	144.5	0.127	11.1	1618.8	0.19343	3127.31	640.2568	
29	149.5	0.127	11.5	1562.3	0.20827	3253.83	629.3733	
30	157	0.127	9.3	1884.4	0.18163	3426.48	691.2142	
31	167	0.127	9.8	1793.7	0.20432	3664.94	674.3743	
32	177	0.127	10.4	1712.3	0.22717	3889.67	658.8947	
33	187	0.127	10.8	1639.5	0.25022	4102.25	644.7358	
34	197	0.127	9	2508.2	0.17096	4268.33	797.4568	
35	207	0.127	8.8	2732.7	0.16377	4475.28	832.3808	
36	222	0.127	9.3	2622.9	0.18116	4751.73	815.4866	
37	242	0.128	9.8	2521.7	0.20271	5111.73	796.4704	
38	262	0.128	9.700001	2776.9	0.19638	5453.19	835.8013	
39	282	0.128	3.8	10911.7	0.05279	5750.91	1656.797	
40	317	0.129	6.7	4560.3	0.13748	6268.45	1096.915	
41	372	0.129	8.8	5006.5	0.13867	6942.36	1117.893	
42	439.5	0.13	6.1	6299.9	0.11035	8652.21	1249.174	
43	527	0.131	3.6	9139.3	0.07354	8720.76	1498.818	
44	637	0.132	3.6	10116.9	0.0774	7830.07	1570.958	
45	764.5	0.133	3.5	11287.9	0.07245	8177.81	1653.138	
46	932	0.135	2.3	21085.8	0.04104	9022.05	2289.983	
47	Base							

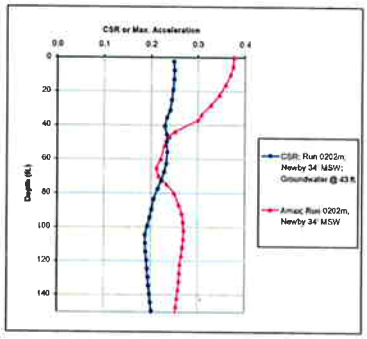
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.37702	Wasle (K&M)	Wasle (K&M)
5	0.37514	Wasle (K&M)	Wasle (K&M)
10	0.36668	Wasle (K&M)	Wasle (K&M)
16	0.35987	Wasle (K&M)	Wasle (K&M)
22	0.34606	Wasle (K&M)	Wasle (K&M)
28	0.32873	Wasle (K&M)	Wasle (K&M)
34	0.30803	Clay PI=22	Clay PI=22
37	0.3004	Clay PI=30	Clay PI=30
44	0.25244		
47	0.23907	Clay PI=30	Clay PI=30
52	0.22668	Sand Upper	Sand lower
60	0.22114	Clay PI=19	Clay PI=19
65	0.2123	Clay PI=19	Clay PI=19
70	0.21703	Clay PI=19	Clay PI=19
75	0.23453	Clay PI=19	Clay PI=19
80	0.25031	EPRI 51-120'	EPRI 51-120'
87	0.26002	Clay PI=19	Clay PI=19
92	0.26637	Clay PI=19	Clay PI=19
97	0.26943	Clay PI=19	Clay PI=19
102	0.27046	Clay PI=19	Clay PI=19
107	0.26983	Clay PI=19	Clay PI=19
112	0.26809	Clay PI=19	Clay PI=19
117	0.26577	Clay PI=19	Clay PI=19
122	0.26273	Clay PI=19	Clay PI=19
127	0.26199	Clay PI=19	Clay PI=19
132	0.26092	EPRI 51-120'	EPRI 51-120'
137	0.25919	EPRI 51-120'	EPRI 51-120'
142	0.25696	EPRI 51-120'	EPRI 51-120'
147	0.25469	EPRI 51-120'	EPRI 51-120'
152	0.25266	EPRI 121-250	EPRI 121-250
162	0.24868	EPRI 121-250	EPRI 121-250
172	0.24562	EPRI 121-250	EPRI 121-250
182	0.24307	EPRI 121-250	EPRI 121-250
192	0.24302	EPRI 121-250	EPRI 121-250
202	0.24252	EPRI 121-250	EPRI 121-250
212	0.23962	EPRI 121-250	EPRI 121-250
232	0.23224	EPRI 121-250	EPRI 121-250
252	0.22926	EPRI 121-250	EPRI 121-250
272	0.24184	EPRI 251-500	EPRI 251-500
292	0.2243	EPRI 251-500	EPRI 251-500
342	0.21661	EPRI 251-500	EPRI 251-500
402	0.21653	EPRI 251-500	EPRI 251-500
477	0.22363	EPRI501-1000	EPRI501-1000
577	0.2435	EPRI501-1000	EPRI501-1000
697	0.28511	EPRI501-1000	EPRI501-1000
832	0.31855	EPRI501-1000	EPRI501-1000
1032	0.28498		

Run 0202m; Newby 34' MSW; Groundwater @ 43 ft.

	83.2%
Groundwater Depth =	43.0 ft.
PGA =	.377 g
Amax =	.377 g
CSR Max =	0.250
CSR Min =	0.091

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.249
10	600.0	0.250
16	1,040.0	0.249
22	1,520.0	0.248
28	2,000.0	0.245
34	2,480.0	0.241
37	2,900.0	0.234
44	3,476.5	0.229
47	3,895.0	0.233
52	4,107.9	0.234
60	4,484.8	0.235
65	4,899.7	0.233
70	5,219.7	0.229
75	5,542.7	0.222
80	5,865.7	0.214
87	6,240.3	0.206
92	6,626.9	0.202
97	6,949.9	0.198
102	7,272.9	0.193
107	7,595.9	0.188
112	7,918.9	0.186
117	8,241.9	0.190
122	8,564.9	0.191
127	8,887.9	0.193
132	9,210.9	0.194
137	9,533.9	0.196
142	9,856.9	0.198
147	10,179.9	0.200
152	10,502.9	0.201
162	10,987.4	0.203
172	11,633.4	0.205
182	12,279.4	0.206
192	12,925.4	0.206
202	13,571.4	0.205
212	14,217.4	0.205
232	15,186.4	0.203
252	16,468.4	0.202
272	17,800.4	0.199
292	19,112.4	0.196
342	21,433.4	0.190
402	25,096.4	0.180
477	29,629.4	0.153
577	35,594.4	0.123
697	43,200.4	0.118
832	52,141.9	0.102
1032	64,167.4	0.091





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 3.02 sec
Average Shear Wave Velocity for Soil Column: 1388 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

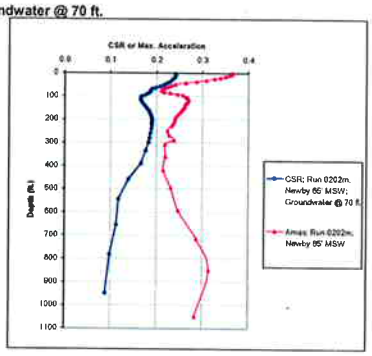
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.4	454	0.01633	74.15	427.4752	
2	7.5	0.08	9	465	0.04602	223.19	441.8286	
3	12.5	0.08	10.3	540.4	0.06667	371.09	466.3808	
4	17.5	0.08	11	602.5	0.08573	516.49	492.4492	
5	22.5	0.08	11.7	640.1	0.10286	658.46	507.5828	
6	28	0.08	12.1	706.6	0.11449	809.06	533.2978	
7	34	0.08	12.5	748.4	0.12905	965.84	548.8452	
8	40	0.08	12.7	823.6	0.13490	1112.14	576.8294	
9	46	0.08	12.9	873.4	0.14284	1247.6	592.6111	
10	52	0.08	13	926	0.14802	1370.7	610.5039	
11	58	0.09	12.6	1120.6	0.13256	1485.39	633.187	
12	63	0.12	9.8	1173.8	0.13419	1575.15	561.2216	
13	67.5	0.12	10.1	1128.7	0.14848	1676.88	550.3343	
14	73.5	0.125	11.9	757	0.23830	1804.36	441.6017	
15	79.5	0.127	12	867.6	0.21878	1897.89	466.867	
16	84.5	0.127	12.2	846.6	0.23125	1958.56	463.3852	
17	89.5	0.127	12.4	831.9	0.24099	2004.73	459.2632	
18	94.5	0.127	12	939.1	0.21661	2034.31	487.9575	
19	100.5	0.125	9.9	1475.2	0.13802	2036.08	618.4507	
20	106.5	0.127	11.9	1024.4	0.20748	2125.36	509.6369	
21	111.5	0.127	11.5	1189.5	0.1852	2202.93	549.1719	
22	116.5	0.127	11.5	1211.5	0.18931	2293.48	554.2271	
23	121.5	0.127	11.7	1185.4	0.2019	2393.3	548.2246	
24	126.5	0.127	11.6	1248.7	0.20006	2498.22	562.8718	
25	131.5	0.127	11.9	1212.2	0.21562	2613.75	554.3872	
26	136.5	0.127	12.1	1175.5	0.23262	2734.39	545.9305	
27	141.5	0.127	12.4	1139.4	0.2508	2857.78	537.4823	
28	146.5	0.127	11.3	1607.8	0.185	2974.29	638.4724	
29	151.5	0.127	10.8	1687.7	0.18342	3065.82	654.1445	
30	156.5	0.127	11.2	1633.4	0.19722	3221.35	643.5353	
31	161.5	0.127	11.5	1580.7	0.21168	3345.98	633.0686	
32	166.5	0.127	11.9	1530.1	0.22669	3468.49	622.8536	
33	174	0.127	9.6	1896.1	0.19477	3638.48	688.2181	
34	184	0.127	10.1	1784.6	0.21675	3866.21	672.9614	
35	194	0.127	10.6	1706.3	0.23918	4085.82	658.1246	
36	204	0.127	11	1637.6	0.26214	4292.73	644.3621	
37	214	0.128	9	2617.7	0.17099	4475.86	811.4864	
38	224	0.128	8.900001	2773.1	0.16804	4659.81	835.2293	
39	239	0.128	9.4	2667.8	0.18459	4924.71	818.2335	
40	259	0.128	9.9	2540	0.20700	5250	799.3552	
41	279	0.128	9.700001	2804.6	0.19872	5573.41	839.9507	
42	299	0.128	3.9	10968.5	0.05343	5671.03	1662.917	
43	334	0.128	6.7	4582.6	0.13757	6304.46	1073.69	
44	389	0.129	6.7	5121	0.13382	6853.12	1130.604	
45	456.5	0.13	6	6477.4	0.10431	6756.66	1266.65	
46	544	0.131	3.5	9267.3	0.07315	6778.8	1509.277	
47	654	0.132	3.6	10109.4	0.07755	7840.23	1570.376	
48	781.5	0.133	3.4	11445	0.07149	8182.46	1664.6	
49	949	0.135	2.3	21679.6	0.04116	9047.41	2289.66	
50	Base							

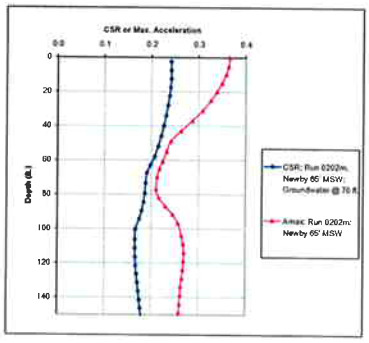
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.36566	Wasle (K&M)	Wasle (K&M)
5	0.36372	Wasle (K&M)	Wasle (K&M)
10	0.35619	Wasle (K&M)	Wasle (K&M)
15	0.34995	Wasle (K&M)	Wasle (K&M)
20	0.33654	Wasle (K&M)	Wasle (K&M)
25	0.32665	Wasle (K&M)	Wasle (K&M)
31	0.30658	Wasle (K&M)	Wasle (K&M)
37	0.287	Wasle (K&M)	Wasle (K&M)
43	0.26337	Wasle (K&M)	Wasle (K&M)
49	0.2415	Wasle (K&M)	Wasle (K&M)
55	0.23256	Wasle (K&M)	Wasle (K&M)
61	0.22413	Clay PI=22	Clay PI=22
65	0.21774	Clay PI=22	Clay PI=22
70	0.21287	Sand Upper	Sand lower
77	0.21018	Clay PI=19	Clay PI=19
82	0.21827	Clay PI=19	Clay PI=19
87	0.2296	Clay PI=19	Clay PI=19
92	0.24642	Clay PI=19	Clay PI=19
97	0.25790	EPRI 51-120'	EPRI 51-120'
104	0.26457	Clay PI=19	Clay PI=19
109	0.2665	Clay PI=19	Clay PI=19
114	0.26991	Clay PI=19	Clay PI=19
119	0.26967	Clay PI=19	Clay PI=19
124	0.26817	Clay PI=19	Clay PI=19
129	0.26902	Clay PI=19	Clay PI=19
134	0.26325	Clay PI=19	Clay PI=19
139	0.26244	Clay PI=19	Clay PI=19
144	0.26143	Clay PI=19	Clay PI=19
149	0.26011	EPRI 51-120'	EPRI 51-120'
154	0.25814	EPRI 51-120'	EPRI 51-120'
159	0.25602	EPRI 51-120'	EPRI 51-120'
164	0.25375	EPRI 51-120'	EPRI 51-120'
169	0.25187	EPRI 121-250	EPRI 121-250
170	0.24732	EPRI 121-250	EPRI 121-250
189	0.24292	EPRI 121-250	EPRI 121-250
199	0.24013	EPRI 121-250	EPRI 121-250
209	0.23899	EPRI 121-250	EPRI 121-250
219	0.23677	EPRI 121-250	EPRI 121-250
229	0.233	EPRI 121-250	EPRI 121-250
249	0.2242	EPRI 121-250	EPRI 121-250
269	0.2277	EPRI 121-250	EPRI 121-250
289	0.23841	EPRI 251-500	EPRI 251-500
309	0.21811	EPRI 251-500	EPRI 251-500
359	0.2197	EPRI 251-500	EPRI 251-500
419	0.21512	EPRI 251-500	EPRI 251-500
494	0.23135	EPRI501-1000	EPRI501-1000
594	0.24835	EPRI501-1000	EPRI501-1000
714	0.28719	EPRI501-1000	EPRI501-1000
849	0.31508	EPRI501-1000	EPRI501-1000
1049	0.26349		

Run 0202m; Newby 65' MSW; Groundwater @ 70 ft.

	88.8%
Groundwater Depth =	70.0 ft.
PGA =	.366 g
Amax =	.366 g
CSR Max =	0.242
CSR Min =	0.099

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.241
10	600.0	0.242
15	1,000.0	0.241
20	1,400.0	0.240
25	1,800.0	0.238
31	2,240.0	0.235
37	2,720.0	0.231
43	3,200.0	0.226
49	3,680.0	0.220
55	4,160.0	0.214
61	4,670.0	0.207
65	5,180.0	0.198
70	5,720.0	0.190
77	6,230.1	0.188
82	6,619.7	0.186
87	6,942.7	0.183
92	7,265.7	0.179
97	7,588.7	0.174
104	7,996.3	0.168
109	8,349.9	0.165
114	8,672.9	0.165
119	8,995.9	0.166
124	9,318.9	0.167
129	9,641.9	0.168
134	9,964.9	0.170
139	10,287.9	0.173
144	10,610.9	0.175
149	10,933.9	0.177
154	11,256.9	0.179
159	11,579.9	0.181
164	11,902.9	0.183
169	12,225.9	0.184
179	12,710.4	0.188
189	13,356.4	0.188
199	14,002.4	0.190
209	14,648.4	0.190
219	15,294.4	0.190
229	15,955.4	0.190
249	16,939.4	0.189
269	18,251.4	0.187
289	19,563.4	0.185
309	20,875.4	0.183
359	23,171.4	0.177
419	26,809.4	0.166
494	31,342.4	0.140
594	37,307.4	0.118
714	44,913.4	0.113
849	53,854.9	0.099
1049	65,880.4	0.089





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3.1 sec
Average Shear Wave Velocity for Soil Column: 1371 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.3	454.3	0.01596	72.51	427.6164	
2	8	0.08	9	508.9	0.04587	232.5	451.6638	
3	14	0.08	10.4	561.6	0.07213	405.07	475.4409	
4	20	0.08	11.2	623.5	0.09194	573.23	500.9579	
5	26	0.08	11.8	686.5	0.10714	735.46	525.658	
6	32	0.08	12.3	726.9	0.12245	890.18	540.9041	
7	38	0.08	12.5	800.8	0.12925	1035.2	567.7341	
8	44	0.08	12.7	849.2	0.13778	1170.13	584.6392	
9	50	0.09	12.3	1063.8	0.12213	1299.29	616.9312	
10	56	0.09	12.4	1126	0.12668	1426.39	634.7108	
11	62	0.09	12.5	1191.6	0.12934	1541.29	652.936	
12	68	0.09	12.5	1260.7	0.13039	1643.83	671.6028	
13	74	0.09	12.5	1333.2	0.13006	1734.2	690.6441	
14	80	0.09	12.6	1409.1	0.12896	1812.89	710.0314	
15	86	0.09	12.4	1488.2	0.12638	1880.76	729.8882	
16	92	0.09	12.3	1570.8	0.12346	1939.07	749.8171	
17	99.5	0.12	11	1019.9	0.19602	1999.11	523.1378	
18	107.5	0.127	12.7	773.1	0.2693	2081.97	442.735	
19	114.5	0.125	10.7	1250.3	0.17386	2173.72	567.5186	
20	120.5	0.127	12.8	872.2	0.26403	2302.81	470.2558	
21	125.5	0.127	12.2	1015.9	0.23484	2385.89	507.5161	
22	130.5	0.127	12.2	1031.2	0.24036	2478.67	511.3256	
23	135.5	0.127	12.5	1001.6	0.25747	2578.68	503.9335	
24	140.5	0.127	12.4	1060.1	0.25308	2682.87	518.4412	
25	145.5	0.127	12.6	1025.5	0.27278	2767.24	509.9104	
26	150.5	0.127	12.9	988.6	0.29502	2916.5	500.8525	
27	155.5	0.127	13.2	952	0.31908	3037.84	491.2975	
28	160.5	0.127	12	1385.6	0.22757	3153.08	582.7137	
29	166.5	0.127	11.9	1437.6	0.22767	3272.98	603.7333	
30	170.5	0.127	12.2	1389.4	0.24424	3393.48	593.5250	
31	175.5	0.127	12.8	1342.9	0.26155	3512.44	583.5095	
32	180.5	0.127	12.9	1298	0.27981	3629.36	573.6717	
33	188	0.127	10.5	1624.9	0.23368	3796.96	641.8586	
34	198	0.127	11	1548.5	0.2593	4015.17	626.5874	
35	208	0.127	11.5	1478.6	0.28552	4221.62	612.2619	
36	218	0.127	11.9	1414.7	0.31203	4414.39	598.9054	
37	228	0.127	9.700001	2317.1	0.19801	4588.02	766.4758	
38	238	0.127	9.4	2643.7	0.16685	4753.02	803.0804	
39	253	0.127	9.9	2454.1	0.20296	4980.85	788.8096	
40	273	0.128	10.3	2376.6	0.22158	5263.75	773.0536	
41	293	0.128	10	2644.4	0.20897	5525.93	815.8174	
42	313	0.128	4	10542.7	0.05513	5812.81	1628.542	
43	348	0.129	6.7	4478.2	0.13673	6123.15	1057.267	
44	403	0.129	6.6	5020.7	0.12634	6443.75	1119.477	
45	470.5	0.13	5.7	6573.5	0.09368	6157.96	1276.012	
46	558	0.131	3.5	9151.4	0.07385	6740.35	1409.809	
47	668	0.132	3.7	9979	0.07809	7792.9	1560.215	
48	795.5	0.133	3.5	11170.8	0.07249	8097.93	1644.639	
49	963	0.135	2.3	21988.8	0.04106	9027.64	2290.128	
50	Base							

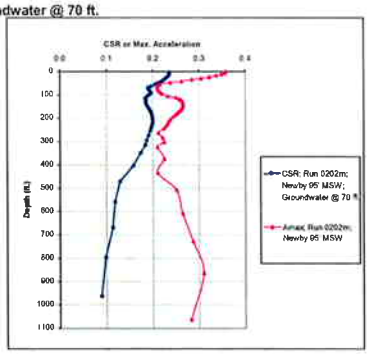
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.35748 Waste (K&M)	Waste (K&M)
5	0.35528 Waste (K&M)	Waste (K&M)
11	0.348 Waste (K&M)	Waste (K&M)
17	0.33656 Waste (K&M)	Waste (K&M)
23	0.32199 Waste (K&M)	Waste (K&M)
29	0.30469 Waste (K&M)	Waste (K&M)
35	0.28431 Waste (K&M)	Waste (K&M)
41	0.26211 Waste (K&M)	Waste (K&M)
47	0.23795 Waste (K&M)	Waste (K&M)
53	0.21644 Waste (K&M)	Waste (K&M)
59	0.21121 Waste (K&M)	Waste (K&M)
65	0.20921 Waste (K&M)	Waste (K&M)
71	0.20919 Waste (K&M)	Waste (K&M)
77	0.21058 Waste (K&M)	Waste (K&M)
83	0.21329 Waste (K&M)	Waste (K&M)
89	0.2166 Waste (K&M)	Waste (K&M)
95	0.22039 Clay PI=22	Clay PI=22
104	0.2328 Clay PI=19	Clay PI=19
111	0.2501 EPRI 51-120'	EPRI 51-120'
118	0.25702 Clay PI=19	Clay PI=19
123	0.26174 Clay PI=19	Clay PI=19
128	0.26394 Clay PI=19	Clay PI=19
133	0.26456 Clay PI=19	Clay PI=19
138	0.26516 Clay PI=19	Clay PI=19
143	0.26526 Clay PI=19	Clay PI=19
148	0.26464 Clay PI=19	Clay PI=19
153	0.26358 Clay PI=19	Clay PI=19
158	0.26216 Clay PI=19	Clay PI=19
163	0.26032 EPRI 51-120'	EPRI 51-120'
168	0.25793 EPRI 51-120'	EPRI 51-120'
173	0.25503 EPRI 51-120'	EPRI 51-120'
178	0.25216 EPRI 51-120'	EPRI 51-120'
183	0.24953 EPRI 121-250	EPRI 121-250
193	0.24407 EPRI 121-250	EPRI 121-250
203	0.23888 EPRI 121-250	EPRI 121-250
213	0.23496 EPRI 121-250	EPRI 121-250
223	0.23252 EPRI 121-250	EPRI 121-250
233	0.2291 EPRI 121-250	EPRI 121-250
243	0.22406 EPRI 121-250	EPRI 121-250
263	0.21187 EPRI 121-250	EPRI 121-250
283	0.22129 EPRI 121-250	EPRI 121-250
303	0.22638 EPRI 251-500	EPRI 251-500
323	0.21022 EPRI 251-500	EPRI 251-500
373	0.2248 EPRI 251-500	EPRI 251-500
433	0.21078 EPRI 251-500	EPRI 251-500
508	0.25115 EPRI501-1000	EPRI501-1000
608	0.26413 EPRI501-1000	EPRI501-1000
728	0.28647 EPRI501-1000	EPRI501-1000
863	0.30952 EPRI501-1000	EPRI501-1000
1063	0.28247	

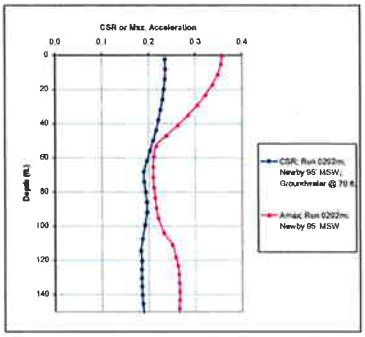
Run 0202m; Newby 95' MSW; Groundwater @ 70 ft.

91.9%

Groundwater Depth =	70.0 ft.
PGA =	.357 g
Amax =	.357 g
CSR Max =	0.236
CSR Min =	0.098

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.236
11	640.0	0.236
17	1,120.0	0.235
23	1,600.0	0.233
29	2,080.0	0.230
35	2,560.0	0.226
41	3,040.0	0.221
47	3,520.0	0.216
53	4,030.0	0.210
59	4,570.0	0.203
65	5,110.0	0.196
71	5,650.0	0.189
77	5,940.4	0.190
83	6,109.0	0.193
89	6,271.6	0.195
95	6,437.2	0.196
104	6,779.2	0.192
111	7,264.5	0.186
118	7,709.7	0.183
123	8,090.3	0.185
128	8,413.3	0.184
133	8,736.3	0.184
138	9,059.3	0.185
143	9,382.3	0.186
148	9,705.3	0.187
153	10,028.3	0.189
158	10,351.3	0.191
163	10,674.3	0.192
168	10,997.3	0.193
173	11,320.3	0.195
178	11,643.3	0.196
183	11,966.3	0.197
193	12,450.8	0.198
203	13,096.8	0.199
213	13,742.8	0.200
223	14,388.8	0.199
233	15,034.8	0.198
243	15,680.8	0.197
263	16,649.8	0.194
283	17,651.8	0.191
303	19,263.8	0.186
323	20,575.8	0.184
373	22,896.8	0.174
433	26,556.8	0.158
508	31,092.8	0.129
608	37,057.8	0.118
728	44,663.8	0.113
863	53,605.3	0.098
1063	65,630.8	0.089





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.36 sec
Average Shear Wave Velocity for Soil Column: 1321 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

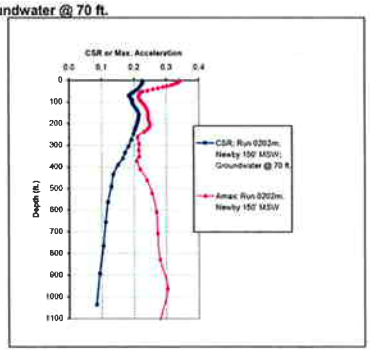
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.2	454.8	0.01521	69.19	427.8518	
2	7.5	0.08	8.8	485.8	0.0429	208.43	442.1928	
3	12.5	0.08	10	542.6	0.06384	346.39	467.3201	
4	17.5	0.08	10.8	604.9	0.07995	481.85	493.4261	
5	22.5	0.08	11.4	645.3	0.09514	613.94	509.6403	
6	27.5	0.08	11.7	713.9	0.10385	741.36	536.0455	
7	32.5	0.08	12	758.3	0.11392	863.91	552.4634	
8	37.5	0.08	12.3	805.9	0.12169	980.67	569.5391	
9	42.5	0.08	12.5	858.3	0.12742	1091.09	587.0782	
10	47.5	0.09	12.1	1037.2	0.11568	1199.54	609.1992	
11	52.5	0.09	12.2	1099.7	0.11904	1306.01	627.2545	
12	57.5	0.09	12.4	1127.2	0.12525	1411.74	635.0486	
13	62.5	0.09	12.4	1194.7	0.12609	1506.35	653.7867	
14	67.5	0.09	12.4	1265.2	0.12564	1593.36	672.8004	
15	72.5	0.09	12.4	1338.7	0.12497	1672.94	692.0673	
16	77.5	0.09	12.4	1373.2	0.12716	1746.16	700.9283	
17	82.5	0.09	12.4	1451.4	0.12463	1811.68	720.6099	
18	87.5	0.09	12.4	1488.8	0.12574	1872.03	729.8353	
19	93	0.09	12.3	1571.2	0.12289	1930.83	749.7803	
20	99	0.09	12.2	1656.1	0.12001	1987.58	769.7564	
21	105	0.09	12.1	1744.1	0.11682	2037.43	789.9368	
22	111	0.09	12.1	1788.3	0.11809	2109.44	799.4363	
23	117	0.09	12.1	1874.9	0.11683	2190.56	819.0223	
24	123	0.09	12	1965.5	0.11557	2271.53	838.5775	
25	130	0.09	12.1	2006.1	0.118	2367.21	847.1942	
26	138	0.09	12.1	2097	0.11813	2477.28	866.1755	
27	146	0.09	12.1	2190	0.11826	2589.76	885.1742	
28	154	0.12	11.9	1026.9	0.26464	2722.96	525.4409	
29	161.5	0.125	14.1	784.7	0.36285	2883.7	452.4541	
30	170	0.127	13.9	791.9	0.38536	3051.54	448.0859	
31	180	0.127	13.8	857.7	0.37825	3244.18	466.3304	
32	190	0.127	13.9	888	0.3856	3428.18	474.7631	
33	200	0.127	14.2	849.3	0.42422	3602.7	464.0413	
34	210	0.127	13.4	1221.6	0.30665	3770.38	558.5326	
35	220	0.127	13.7	1210.7	0.32458	3929.6	554.0441	
36	230	0.127	14.1	1146.6	0.3558	4079.5	539.1779	
37	247.5	0.127	11.8	1457.9	0.29609	4358.94	607.6609	
38	275	0.127	10.7	2008.8	0.23577	4738.13	713.865	
39	305	0.128	10.1	2469.8	0.20516	5067.06	788.2316	
40	335	0.128	10.1	2594.5	0.20283	5262.41	807.8454	
41	360	0.128	3.8	10791.4	0.06095	5496.15	1647.638	
42	390	0.128	6.4	4591	0.11866	5447.69	1074.674	
43	435	0.129	6.3	4744.1	0.11696	5549.47	1088.203	
44	490	0.129	5.5	6646.6	0.09069	6027.98	1268.05	
45	562.5	0.13	5.5	6925.1	0.09266	6416.53	1309.692	
46	655	0.131	3.6	9413.9	0.07577	7133.35	1521.168	
47	765	0.132	3.5	10681.8	0.07419	7924.58	1614.222	
48	892.5	0.133	3.4	11740.9	0.07048	8273.15	1685.062	
49	1035	0.135	2.3	22046.6	0.03991	8798.33	2293.147	
50	Base							

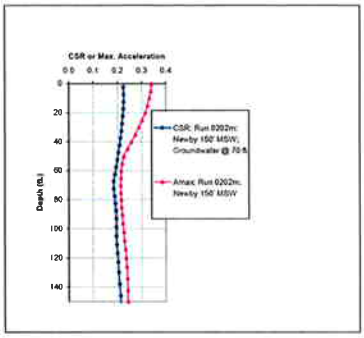
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.33972 Waste (K&M)	Waste (K&M)
5	0.33778 Waste (K&M)	Waste (K&M)
10	0.33232 Waste (K&M)	Waste (K&M)
15	0.32434 Waste (K&M)	Waste (K&M)
20	0.31432 Waste (K&M)	Waste (K&M)
25	0.30218 Waste (K&M)	Waste (K&M)
30	0.28874 Waste (K&M)	Waste (K&M)
35	0.27381 Waste (K&M)	Waste (K&M)
40	0.25765 Waste (K&M)	Waste (K&M)
45	0.24069 Waste (K&M)	Waste (K&M)
50	0.22521 Waste (K&M)	Waste (K&M)
55	0.21855 Waste (K&M)	Waste (K&M)
60	0.2154 Waste (K&M)	Waste (K&M)
65	0.2136 Waste (K&M)	Waste (K&M)
70	0.2131 Waste (K&M)	Waste (K&M)
75	0.21357 Waste (K&M)	Waste (K&M)
80	0.21483 Waste (K&M)	Waste (K&M)
85	0.2166 Waste (K&M)	Waste (K&M)
90	0.21886 Waste (K&M)	Waste (K&M)
96	0.22163 Waste (K&M)	Waste (K&M)
102	0.22524 Waste (K&M)	Waste (K&M)
108	0.22855 Waste (K&M)	Waste (K&M)
114	0.2319 Waste (K&M)	Waste (K&M)
120	0.23489 Waste (K&M)	Waste (K&M)
126	0.23743 Waste (K&M)	Waste (K&M)
134	0.24007 Waste (K&M)	Waste (K&M)
142	0.24192 Waste (K&M)	Waste (K&M)
150	0.24258 Clay PI=22	Clay PI=22
158	0.24258 EPRI 51-120'	EPRI 51-120'
165	0.24297 Clay PI=19	Clay PI=19
175	0.2429 Clay PI=19	Clay PI=19
185	0.24487 Clay PI=19	Clay PI=19
195	0.24931 Clay PI=19	Clay PI=19
205	0.24648 EPRI 51-120'	EPRI 51-120'
215	0.2451 EPRI 51-120'	EPRI 51-120'
225	0.23959 EPRI 51-120'	EPRI 51-120'
235	0.23044 EPRI 121-250	EPRI 121-250
260	0.21006 EPRI 121-250	EPRI 121-250
290	0.21484 EPRI 121-250	EPRI 121-250
320	0.21413 EPRI 121-250	EPRI 121-250
350	0.2154 EPRI 251-500	EPRI 251-500
370	0.20824 EPRI 251-500	EPRI 251-500
410	0.21851 EPRI 251-500	EPRI 251-500
460	0.23039 EPRI 251-500	EPRI 251-500
520	0.25486 EPRI 251-500	EPRI 251-500
605	0.26845 EPRI501-1000	EPRI501-1000
705	0.27292 EPRI501-1000	EPRI501-1000
825	0.27964 EPRI501-1000	EPRI501-1000
960	0.30279 EPRI501-1000	EPRI501-1000
1110	0.27912	

Run 0202m; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.340 g
Amax =	.340 g
CSR Max =	0.226
CSR Min =	0.093

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.225
10	600.0	0.226
15	1,000.0	0.225
20	1,400.0	0.224
25	1,800.0	0.222
30	2,200.0	0.219
35	2,600.0	0.216
40	3,000.0	0.212
45	3,400.0	0.209
50	3,825.0	0.204
55	4,275.0	0.199
60	4,725.0	0.194
65	5,175.0	0.189
70	5,625.0	0.184
75	5,918.0	0.184
80	6,057.0	0.187
85	6,195.0	0.190
90	6,333.0	0.192
96	6,484.8	0.194
102	6,650.4	0.194
108	6,816.0	0.194
114	6,981.6	0.196
120	7,147.2	0.199
126	7,312.8	0.202
134	7,506.0	0.205
142	7,726.8	0.208
150	7,947.6	0.212
158	8,288.4	0.214
165	8,737.9	0.215
175	9,280.0	0.214
185	9,926.0	0.212
195	10,572.0	0.211
205	11,218.0	0.209
215	11,864.0	0.207
225	12,510.0	0.204
235	13,156.0	0.202
260	14,266.5	0.198
290	16,063.0	0.192
320	18,016.0	0.183
350	19,964.0	0.171
370	21,824.0	0.165
410	23,592.0	0.150
460	26,569.0	0.136
520	30,232.0	0.130
605	35,103.0	0.119
705	41,406.0	0.112
825	49,012.0	0.105
960	57,953.5	0.093
1110	68,164.0	0.084





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.42 sec
Average Shear Wave Velocity for Soil Column: 1334 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

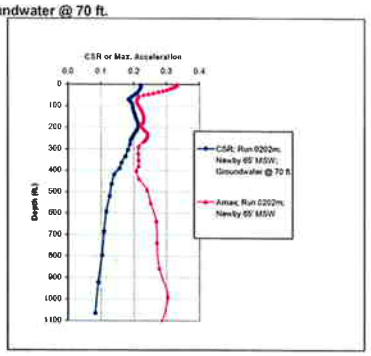
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.2	454.9	0.01469	67.71		427.8987
2	7.5	0.08	8.8	486.1	0.04201	204.19		442.3293
3	12.5	0.08	10	543.2	0.06255	339.8		467.5874
4	17.5	0.08	10.7	605.6	0.07813	473.18		493.7145
5	22.5	0.08	11.3	646.7	0.09334	603.6		510.1929
6	27.5	0.08	11.6	715.3	0.10205	729.67		536.5709
7	32.5	0.08	12	759.7	0.11215	852.04		552.9731
8	37.5	0.08	12.2	807.2	0.12002	968.81		569.9683
9	42.5	0.08	12.4	857.6	0.1259	1079.67		587.5236
10	47.5	0.09	12.1	1038.4	0.11449	1188.95		609.5215
11	52.5	0.09	12.2	1100.8	0.11809	1299.93		627.5682
12	57.5	0.09	12.2	1166.2	0.1204	1404.03		645.9415
13	62.5	0.09	12.4	1195.4	0.12563	1501.7		653.9783
14	67.5	0.09	12.4	1266.8	0.12576	1591.57		672.9068
15	72.5	0.09	12.5	1298	0.12904	1675.02		681.4956
16	77.5	0.09	12.4	1373	0.12751	1750.74		700.8772
17	82.5	0.09	12.4	1450.9	0.12542	1819.75		720.4858
18	87.5	0.09	12.4	1488	0.12657	1883.41		729.6392
19	95	0.09	12.4	1567.9	0.1255	1967.82		748.9725
20	105	0.09	12.2	1665.2	0.12188	2062.7		778.7842
21	115	0.09	12.1	1829.3	0.11705	2141.14		809.0012
22	125	0.09	12	1998.8	0.11438	2249.59		838.8548
23	135	0.105	11.4	2439.9	0.09784	2387.14		865.0063
24	145	0.105	11.4	2605.8	0.09767	2544.93		893.9307
25	155	0.105	11.5	2712.6	0.09988	2709.42		912.0659
26	165	0.105	11.5	2888.8	0.09977	2880.08		940.8061
27	175	0.105	11.5	3066.3	0.09969	3056.76		969.7072
28	184	0.12	12.3	1097.4	0.29438	3230.44		542.65
29	191.5	0.125	14.4	881	0.38399	3382.88		478.3881
30	200	0.127	14	901.3	0.38267	3540.94		478.0362
31	210	0.127	14	940.3	0.39373	3702.16		488.2692
32	220	0.127	13.8	1025.9	0.37393	3836.22		510.0099
33	230	0.127	14	996.1	0.39672	3951.73		502.548
34	240	0.127	13.3	1365.7	0.29779	4066.97		588.4421
35	250	0.127	13.5	1370.7	0.30524	4183.83		580.5182
36	260	0.127	13.8	1318	0.32652	4303.48		578.0745
37	277.5	0.127	11.4	1678.9	0.27272	4573.06		652.0462
38	305	0.127	10.3	2270	0.21816	4952.32		758.5457
39	335	0.128	9.8	2601.2	0.19543	5259.58		822.8031
40	365	0.128	9.8	2843.7	0.18656	5390.69		845.7044
41	390	0.128	3.7	11667.5	0.04768	5581.49		1712.481
42	420	0.128	6.2	4961	0.10917	5437.75		1119.39
43	465	0.129	6.2	5004.5	0.11425	5717.75		1117.67
44	520	0.129	5.4	7065.8	0.0873	5168.2		1328.048
45	592.5	0.13	5.5	7242.6	0.09003	6520.62		1339.379
46	685	0.131	3.5	9819.6	0.07334	7202.13		1563.8
47	795	0.132	3.5	11097	0.07238	8031.49		1645.295
48	922.5	0.133	3.4	12023.8	0.06949	8355.01		1706.173
49	1065	0.135	2.3	22032.5	0.04016	8847.61		2292.413
50	Base							

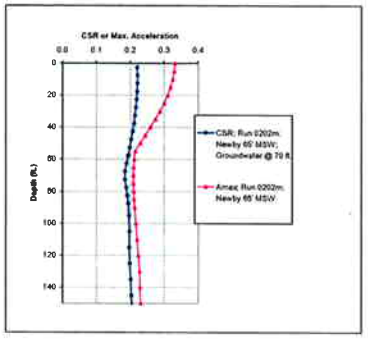
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.33202 Waste (K&M)	Waste (K&M)
5	0.33042 Waste (K&M)	Waste (K&M)
10	0.32587 Waste (K&M)	Waste (K&M)
15	0.31919 Waste (K&M)	Waste (K&M)
20	0.31061 Waste (K&M)	Waste (K&M)
25	0.30003 Waste (K&M)	Waste (K&M)
30	0.2861 Waste (K&M)	Waste (K&M)
35	0.27461 Waste (K&M)	Waste (K&M)
40	0.25983 Waste (K&M)	Waste (K&M)
45	0.24404 Waste (K&M)	Waste (K&M)
50	0.22945 Waste (K&M)	Waste (K&M)
55	0.21454 Waste (K&M)	Waste (K&M)
60	0.21125 Waste (K&M)	Waste (K&M)
65	0.20025 Waste (K&M)	Waste (K&M)
70	0.20836 Waste (K&M)	Waste (K&M)
75	0.2064 Waste (K&M)	Waste (K&M)
80	0.20914 Waste (K&M)	Waste (K&M)
85	0.21031 Waste (K&M)	Waste (K&M)
90	0.21187 Waste (K&M)	Waste (K&M)
100	0.21571 Waste (K&M)	Waste (K&M)
110	0.22 Waste (K&M)	Waste (K&M)
120	0.22394 Waste (K&M)	Waste (K&M)
130	0.227 Waste (K&M)	Waste (K&M)
140	0.22865 Waste (K&M)	Waste (K&M)
150	0.23002 Waste (K&M)	Waste (K&M)
160	0.22993 Waste (K&M)	Waste (K&M)
170	0.22859 Waste (K&M)	Waste (K&M)
180	0.22614 Clay PI=22	Clay PI=22
188	0.21671 EPRI 51-120'	EPRI 51-120'
195	0.21979 Clay PI=19	Clay PI=19
205	0.22602 Clay PI=19	Clay PI=19
215	0.2349 Clay PI=19	Clay PI=19
225	0.24142 Clay PI=19	Clay PI=19
235	0.24211 EPRI 51-120'	EPRI 51-120'
245	0.23947 EPRI 51-120'	EPRI 51-120'
255	0.23617 EPRI 51-120'	EPRI 51-120'
265	0.23 EPRI 121-250	EPRI 121-250
290	0.21366 EPRI 121-250	EPRI 121-250
320	0.21347 EPRI 121-250	EPRI 121-250
350	0.21452 EPRI 121-250	EPRI 121-250
380	0.21411 EPRI 251-500	EPRI 251-500
400	0.20713 EPRI 251-500	EPRI 251-500
440	0.21639 EPRI 251-500	EPRI 251-500
490	0.24039 EPRI 251-500	EPRI 251-500
550	0.25129 EPRI 251-500	EPRI 251-500
635	0.26867 EPRI501-1000	EPRI501-1000
735	0.27056 EPRI501-1000	EPRI501-1000
855	0.27753 EPRI501-1000	EPRI501-1000
990	0.30373 EPRI501-1000	EPRI501-1000
1140	0.27941	

Run 0202m; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.332 g
Amax =	.332 g
CSR Max =	0.221
CSR Min =	0.091

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.220
10	600.0	0.221
15	1,000.0	0.221
20	1,400.0	0.220
25	1,800.0	0.218
30	2,200.0	0.216
35	2,600.0	0.213
40	3,000.0	0.210
45	3,400.0	0.206
50	3,825.0	0.202
55	4,275.0	0.198
60	4,725.0	0.193
65	5,175.0	0.189
70	5,625.0	0.184
75	5,919.0	0.184
80	6,057.0	0.188
85	6,195.0	0.191
90	6,333.0	0.193
100	6,640.0	0.196
110	6,816.0	0.197
120	7,092.0	0.198
130	7,368.0	0.198
140	7,719.0	0.201
150	8,145.0	0.203
160	8,571.0	0.205
170	8,997.0	0.208
180	9,423.0	0.211
188	9,866.4	0.213
195	10,315.0	0.213
205	10,858.0	0.212
215	11,504.0	0.209
225	12,150.0	0.205
235	12,796.0	0.201
245	13,442.0	0.197
255	14,088.0	0.193
265	14,734.0	0.190
290	15,864.5	0.187
320	17,641.0	0.182
350	19,504.0	0.174
380	21,582.0	0.163
400	23,202.0	0.156
440	25,170.0	0.140
490	28,147.0	0.132
550	31,810.0	0.126
635	36,681.0	0.116
735	42,094.0	0.109
855	50,590.0	0.103
990	59,531.5	0.091
1140	69,742.0	0.082





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.53 sec
Average Shear Wave Velocity for Soil Column: 1338 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

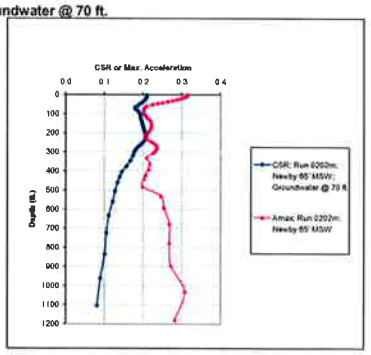
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.1	455.1	0.01409	64.11		427.9927
2	7.5	0.08	8.6	488.8	0.03909	193.19		442.6477
3	12.5	0.08	9.8	545.1	0.05896	321.4		468.4045
4	17.5	0.08	10.5	607.7	0.07368	447.78		494.5668
5	22.5	0.08	11.1	640.8	0.08796	571.54		511.4142
6	27.5	0.08	11.4	719.9	0.09607	691.67		538.2934
7	32.5	0.08	11.7	784.6	0.1057	808.2		554.7535
8	37.5	0.08	12	812.4	0.11326	920.07		571.8313
9	42.5	0.09	11.7	963.8	0.10489	1031.89		593.2805
10	47.5	0.09	11.9	1043.2	0.10968	1146.31		610.9288
11	55	0.09	12.2	1100.4	0.1188	1307.29		627.4541
12	65	0.09	12.4	1196	0.12536	1496.29		654.1423
13	75	0.09	12.3	1340.2	0.1242	1664.46		692.4549
14	85	0.09	12.3	1452.6	0.12434	1806.22		720.9078
15	95	0.09	12.3	1572.2	0.12256	1929.82		749.9968
16	105	0.09	12.2	1696.7	0.11948	2029.7		779.5878
17	115	0.09	12	1831.8	0.11564	2118.36		809.5536
18	125	0.09	11.9	1970.8	0.1121	2208.91		839.6647
19	135	0.105	11.3	2445.5	0.09546	2334.45		865.9965
20	145	0.105	11.3	2613.3	0.09472	2476.28		895.2162
21	155	0.105	11.4	2722.4	0.09623	2619.78		913.7119
22	165	0.105	11.3	2869.2	0.09547	2768.02		942.9147
23	175	0.105	11.3	3081.5	0.0948	2921.11		972.1077
24	185	0.105	11.4	3199.4	0.09624	3079.18		990.5298
25	195	0.105	11.4	3319.8	0.09759	3238.89		1008.996
26	205	0.105	11.4	3515.1	0.09675	3400.96		1038.25
27	215	0.105	11.4	3642.2	0.09777	3561.19		1056.854
28	224	0.12	12.5	1181	0.31406	3700.06		562.0402
29	231.5	0.125	15	890.8	0.42922	3823.72		479.0304
30	240	0.127	14.3	916.4	0.43102	3950.01		482.024
31	250	0.127	14.1	1004.7	0.40479	4067.04		504.7127
32	260	0.127	14	1061.7	0.39114	4182.83		518.8323
33	270	0.127	14.2	1041.8	0.40484	4217.59		513.9469
34	280	0.127	13.3	1474.7	0.29132	4296.19		611.4739
35	290	0.127	13.5	1436.3	0.30469	4376.16		603.4903
36	300	0.127	13.8	1395.6	0.31985	4463.92		594.8498
37	317.5	0.127	11.3	1795.7	0.26219	4708.26		674.7501
38	345	0.127	10.2	2370.5	0.21065	4993.51		775.2578
39	375	0.128	9.4	2933.3	0.17616	5167.44		859.0159
40	405	0.128	9.2	3077.5	0.16869	5191.48		879.877
41	430	0.128	3.4	12398.7	0.0433	5368.59		1766.083
42	460	0.128	5.9	5317.2	0.10437	5549.33		1156.55
43	505	0.129	6.1	5270.7	0.1113	5886.22		1147.01
44	560	0.129	5.3	7262.6	0.09633	6269.57		1348.416
45	632.5	0.13	5.4	7466	0.06802	6571.44		1359.879
46	725	0.131	3.4	10105	0.07163	7238.61		1576.015
47	835	0.132	3.5	11228.7	0.07206	8091.07		1655.029
48	962.5	0.133	3.3	12328.4	0.06811	8396.93		1727.849
49	1105	0.135	2.3	22021	0.04033	8882.06		2291.815
50	Base							

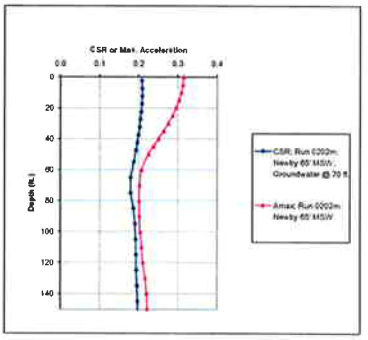
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.31514 Waste (K&M)	Waste (K&M)
5	0.3137 Waste (K&M)	Waste (K&M)
10	0.30961 Waste (K&M)	Waste (K&M)
15	0.30354 Waste (K&M)	Waste (K&M)
20	0.29588 Waste (K&M)	Waste (K&M)
25	0.28645 Waste (K&M)	Waste (K&M)
30	0.27589 Waste (K&M)	Waste (K&M)
35	0.26395 Waste (K&M)	Waste (K&M)
40	0.2506 Waste (K&M)	Waste (K&M)
45	0.2383 Waste (K&M)	Waste (K&M)
50	0.22504 Waste (K&M)	Waste (K&M)
60	0.20719 Waste (K&M)	Waste (K&M)
70	0.20205 Waste (K&M)	Waste (K&M)
80	0.2007 Waste (K&M)	Waste (K&M)
90	0.20164 Waste (K&M)	Waste (K&M)
100	0.20394 Waste (K&M)	Waste (K&M)
110	0.20713 Waste (K&M)	Waste (K&M)
120	0.21098 Waste (K&M)	Waste (K&M)
130	0.21733 Waste (K&M)	Waste (K&M)
140	0.22048 Waste (K&M)	Waste (K&M)
150	0.22177 Waste (K&M)	Waste (K&M)
160	0.22163 Waste (K&M)	Waste (K&M)
170	0.22034 Waste (K&M)	Waste (K&M)
180	0.21807 Waste (K&M)	Waste (K&M)
190	0.21483 Waste (K&M)	Waste (K&M)
200	0.21074 Waste (K&M)	Waste (K&M)
210	0.20616 Waste (K&M)	Waste (K&M)
220	0.20456 Clay PI=22	Clay PI=22
228	0.20465 EPRI 51-120'	EPRI 51-120'
235	0.21095 Clay PI=19	Clay PI=19
245	0.22104 Clay PI=19	Clay PI=19
255	0.22819 Clay PI=19	Clay PI=19
265	0.23505 Clay PI=19	Clay PI=19
275	0.23858 EPRI 51-120'	EPRI 51-120'
285	0.23416 EPRI 51-120'	EPRI 51-120'
295	0.23158 EPRI 51-120'	EPRI 51-120'
305	0.22677 EPRI 121-250	EPRI 121-250
330	0.20909 EPRI 121-250	EPRI 121-250
360	0.217 EPRI 121-250	EPRI 121-250
390	0.21431 EPRI 121-250	EPRI 121-250
420	0.20668 EPRI 251-500	EPRI 251-500
440	0.20266 EPRI 251-500	EPRI 251-500
480	0.19796 EPRI 251-500	EPRI 251-500
530	0.24651 EPRI 251-500	EPRI 251-500
590	0.25397 EPRI 251-500	EPRI 251-500
675	0.268 EPRI501-1000	EPRI501-1000
775	0.26777 EPRI501-1000	EPRI501-1000
895	0.27201 EPRI501-1000	EPRI501-1000
1030	0.30849 EPRI501-1000	EPRI501-1000
1180	0.28303	

Run 0202m; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.315 g
Amax =	.315 g
CSR Max =	0.209
CSR Min =	0.089

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.208
10	600.0	0.209
15	1,000.0	0.209
20	1,400.0	0.208
25	1,800.0	0.206
30	2,200.0	0.204
35	2,600.0	0.202
40	3,000.0	0.199
45	3,425.0	0.196
50	3,875.0	0.192
60	4,550.0	0.187
70	5,450.0	0.178
80	6,038.0	0.179
90	6,314.0	0.186
100	6,590.0	0.190
110	6,866.0	0.192
120	7,142.0	0.193
130	7,418.0	0.194
140	7,769.0	0.195
150	8,195.0	0.196
160	8,621.0	0.198
170	9,047.0	0.199
180	9,473.0	0.200
190	9,899.0	0.202
200	10,325.0	0.204
210	10,751.0	0.206
220	11,177.0	0.207
228	11,520.4	0.207
235	12,069.9	0.206
245	12,612.0	0.204
255	13,258.0	0.199
265	13,904.0	0.194
275	14,550.0	0.188
285	15,196.0	0.184
295	15,842.0	0.180
305	16,488.0	0.176
330	17,616.5	0.174
360	19,305.0	0.167
390	21,348.0	0.157
420	23,316.0	0.145
440	24,956.0	0.140
480	26,924.0	0.134
530	29,901.0	0.128
590	33,564.0	0.121
675	39,435.0	0.111
775	44,738.0	0.105
895	52,344.0	0.100
1030	61,285.5	0.089
1180	71,496.0	0.081





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.7 sec
Average Shear Wave Velocity for Soil Column: 1337 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\CORONFN_504 EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

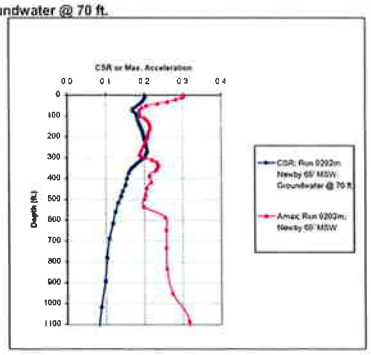
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)
1	2.5	0.08	6	455.3	0.01349	61.42	428.0867
2	7.5	0.08	8.6	487.3	0.03797	185.03	442.875
3	15	0.08	10.1	564.9	0.0652	368.31	476.5357
4	25	0.08	11.3	646.9	0.09328	603.42	510.2716
5	35	0.08	11.8	763.2	0.1077	821.93	554.2454
6	45	0.08	12.2	863.6	0.11815	1020.31	589.5753
7	55	0.08	12.3	974.8	0.12298	1195.88	628.3841
8	65	0.08	12.4	1081.8	0.12701	1348.34	653.8773
9	75	0.08	12.3	1191.4	0.12402	1477.62	692.4872
10	85	0.09	11.8	1474.5	0.10791	1591.2	726.3218
11	95	0.09	11.7	1595.8	0.10642	1698.29	755.6069
12	105	0.09	11.7	1723.7	0.10403	1793.15	785.3035
13	115	0.09	11.6	1857.7	0.10117	1879.38	815.2568
14	125	0.09	11.5	1996	0.0969	1974.16	845.0588
15	135	0.09	11.5	2096	0.09672	2080.04	863.9007
16	145	0.09	11.4	2231.5	0.09791	2184.93	893.5217
17	155	0.09	11.5	2327.1	0.09845	2291.03	912.4608
18	165	0.09	11.4	2480.8	0.0967	2398.92	942.1121
19	175	0.09	11.3	2639.4	0.09511	2510.17	971.7606
20	185	0.105	10.8	3236.1	0.08143	2635	996.1948
21	195	0.105	10.9	3350.9	0.08258	2776	1015.071
22	205	0.105	10.8	3555.3	0.08233	2927.1	1044.171
23	215	0.105	10.9	3684.8	0.08361	3080.85	1063.017
24	225	0.105	10.9	3816.8	0.08482	3237.42	1081.89
25	237.5	0.105	11	4022.4	0.08538	3434.5	1110.647
26	252.5	0.105	11	4231.2	0.08672	3669.11	1139.109
27	267.5	0.105	11.1	4446.2	0.08767	3898.17	1167.991
28	279	0.12	12.6	1299.9	0.31238	4060.53	590.5984
29	288.5	0.125	15.7	830.6	0.49733	4131.06	462.5609
30	295	0.127	14.7	912.2	0.46539	4245.18	480.9181
31	305	0.127	14.4	1009.6	0.42896	4330.87	505.942
32	315	0.127	14.2	1076.8	0.40657	4377.99	522.5068
33	325	0.127	14.3	1067.7	0.41128	4391.25	520.2963
34	335	0.127	13.4	1509.2	0.2924	4412.86	618.5851
35	345	0.127	13.5	1495.5	0.29577	4423.3	615.7711
36	355	0.127	13.6	1479.7	0.30024	4442.72	612.5096
37	372.5	0.127	10.9	1993	0.23789	4598.55	700.0709
38	400	0.127	9.700001	2578.3	0.18838	4856.94	808.5238
39	430	0.128	9.2	3042.8	0.17147	5217.55	874.9025
40	460	0.128	9.099999	3217.5	0.16749	5388.85	899.6679
41	485	0.128	3.4	12632.7	0.0441	6571.5	1782.67
42	515	0.128	6	6372.3	0.10596	5692.45	1182.527
43	550	0.129	6.1	6343.6	0.11113	5938.26	1154.915
44	615	0.129	5.3	7372.8	0.0865	6304.08	1356.502
45	687.5	0.13	5.3	7592.3	0.06886	6594.7	1371.333
46	780	0.131	3.4	10248.6	0.07071	7246.83	1587.174
47	890	0.132	3.4	11382.7	0.07106	8088.23	1666.34
48	1017.5	0.133	3.3	12494.4	0.0671	8364.19	1739.241
49	1160	0.135	2.3	22028.7	0.04017	8849.69	2292.216
50	Base						

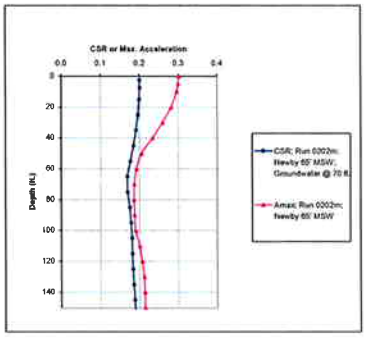
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.30143	Waste (K&M)	Waste (K&M)
5	0.29994	Waste (K&M)	Waste (K&M)
10	0.29578	Waste (K&M)	Waste (K&M)
20	0.28128	Waste (K&M)	Waste (K&M)
30	0.2566	Waste (K&M)	Waste (K&M)
40	0.23357	Waste (K&M)	Waste (K&M)
50	0.20454	Waste (K&M)	Waste (K&M)
60	0.1916	Waste (K&M)	Waste (K&M)
70	0.18624	Waste (K&M)	Waste (K&M)
80	0.18537	Waste (K&M)	Waste (K&M)
90	0.18673	Waste (K&M)	Waste (K&M)
100	0.18944	Waste (K&M)	Waste (K&M)
110	0.19966	Waste (K&M)	Waste (K&M)
120	0.20675	Waste (K&M)	Waste (K&M)
130	0.21113	Waste (K&M)	Waste (K&M)
140	0.21334	Waste (K&M)	Waste (K&M)
150	0.21381	Waste (K&M)	Waste (K&M)
160	0.21292	Waste (K&M)	Waste (K&M)
170	0.21099	Waste (K&M)	Waste (K&M)
180	0.2085	Waste (K&M)	Waste (K&M)
190	0.20776	Waste (K&M)	Waste (K&M)
200	0.20627	Waste (K&M)	Waste (K&M)
210	0.20438	Waste (K&M)	Waste (K&M)
220	0.20212	Waste (K&M)	Waste (K&M)
230	0.19961	Waste (K&M)	Waste (K&M)
245	0.19584	Waste (K&M)	Waste (K&M)
260	0.19203	Waste (K&M)	Waste (K&M)
275	0.18843	Clay PI=22	Clay PI=22
283	0.18556	EPRI 51-120'	EPRI 51-120'
290	0.18669	Clay PI=19	Clay PI=19
300	0.19866	Clay PI=19	Clay PI=19
310	0.21969	Clay PI=19	Clay PI=19
320	0.23116	Clay PI=19	Clay PI=19
330	0.23542	EPRI 51-120'	EPRI 51-120'
340	0.23435	EPRI 51-120'	EPRI 51-120'
350	0.23127	EPRI 51-120'	EPRI 51-120'
360	0.22841	EPRI 121-250	EPRI 121-250
385	0.21214	EPRI 121-250	EPRI 121-250
415	0.2167	EPRI 121-250	EPRI 121-250
445	0.20517	EPRI 121-250	EPRI 121-250
475	0.20282	EPRI 251-500	EPRI 251-500
495	0.19943	EPRI 251-500	EPRI 251-500
535	0.19786	EPRI 251-500	EPRI 251-500
585	0.25334	EPRI 251-500	EPRI 251-500
645	0.25581	EPRI 251-500	EPRI 251-500
730	0.25586	EPRI501-1000	EPRI501-1000
830	0.25777	EPRI501-1000	EPRI501-1000
950	0.27238	EPRI501-1000	EPRI501-1000
1085	0.31806	EPRI501-1000	EPRI501-1000
1235	0.28927		

Run 0202m; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.301 g
Amax =	.316 g
CSR Max =	0.207
CSR Min =	0.087

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.200
10	600.0	0.200
20	1,200.0	0.200
30	2,000.0	0.196
40	2,800.0	0.191
50	3,600.0	0.184
60	4,400.0	0.177
70	5,200.0	0.169
80	5,988.0	0.166
90	6,914.0	0.175
100	6,190.0	0.178
110	6,466.0	0.180
120	6,742.0	0.181
130	7,018.0	0.183
140	7,294.0	0.185
150	7,570.0	0.188
160	7,846.0	0.190
170	8,122.0	0.192
180	8,398.0	0.194
190	8,749.0	0.196
200	9,175.0	0.197
210	9,601.0	0.198
220	10,027.0	0.200
230	10,453.0	0.201
245	10,985.5	0.203
260	11,624.5	0.205
275	12,263.5	0.207
283	12,813.4	0.206
290	13,202.0	0.202
300	13,805.0	0.200
310	14,451.0	0.195
320	15,097.0	0.188
330	15,743.0	0.181
340	16,389.0	0.175
350	17,035.0	0.169
360	17,661.0	0.163
385	18,811.5	0.159
415	20,688.0	0.153
445	22,541.0	0.150
475	24,509.0	0.143
495	26,149.0	0.138
535	28,117.0	0.132
585	31,064.0	0.124
645	34,767.0	0.118
730	39,628.0	0.108
830	45,931.0	0.103
950	53,537.0	0.098
1085	62,478.5	0.087
1235	72,689.0	0.079





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.308 g
Max EQ PGA for All Soil Profiles =	.325 g
Min EQ PGA for All Soil Profiles =	.204 g

U. Wt. of Water =	62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.83 sec
Average Shear Wave Velocity for Soil Column: 1421 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE_270_21.EQ

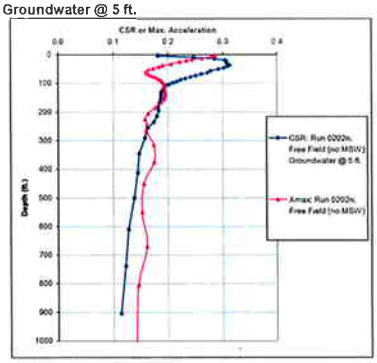
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

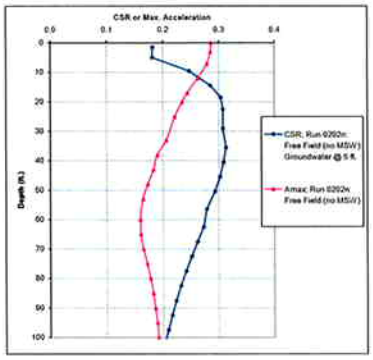
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	2.6	648.5	0.00732	47.45	429.8765	0	0.28688	Clay PI=30	Clay PI=30
2	5	0.113	4.8	580.6	0.02818	157.9	399.6826	3	0.28571	Clay PI=30	Clay PI=30
3	9.5	0.113	6.5	470.3	0.08425	302.17	366.0802	7	0.27962	Clay PI=30	Clay PI=30
4	14.5	0.113	7.4	499	0.09195	458.85	377.0848	12	0.26285	Clay PI=30	Clay PI=30
5	18.5	0.12	9.099999	497.4	0.11829	588.41	365.3341	17	0.24467		
6	22.5	0.113	7.2	812.1	0.08569	695.87	481.0536	20	0.23471	Clay PI=30	Clay PI=30
7	29	0.125	8	1482.3	0.05891	873.19	617.9324	25	0.22184	Sand Upper	Sand lower
8	35.5	0.127	9.700001	978.1	0.11136	1089.17	497.9866	33	0.20845	Clay PI=19	Clay PI=19
9	40.5	0.127	9.9	1030.7	0.11884	1224.91	511.2016	38	0.19069	Clay PI=19	Clay PI=19
10	45.5	0.127	10.4	994.9	0.13572	1350.22	502.2452	43	0.18363	Clay PI=19	Clay PI=19
11	50.5	0.127	10.2	1128.8	0.12804	1455.53	534.9764	48	0.17366	Clay PI=19	Clay PI=19
12	56.5	0.125	8.7	1457	0.10802	1544.72	612.6363	53	0.16508	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	11	1019.1	0.16419	1673.16	508.3168	60	0.15991	Clay PI=19	Clay PI=19
14	67.5	0.127	10.6	1178	0.14732	1735.44	546.5107	65	0.16088	Clay PI=19	Clay PI=19
15	72.5	0.127	10.7	1198.3	0.1497	1793.81	551.1998	70	0.16537	Clay PI=19	Clay PI=19
16	77.5	0.127	10.9	1172.7	0.15743	1846.15	545.28	75	0.17216	Clay PI=19	Clay PI=19
17	82.5	0.127	10.7	1280.1	0.14729	1885.5	569.7023	80	0.17832	Clay PI=19	Clay PI=19
18	87.5	0.127	10.8	1258.9	0.15317	1928.29	564.9652	85	0.18303	Clay PI=19	Clay PI=19
19	92.5	0.127	10.9	1240.9	0.15879	1970.42	560.9117	90	0.18661	Clay PI=19	Clay PI=19
20	97.5	0.127	11	1224.6	0.16457	2015.31	557.2155	95	0.18967	Clay PI=19	Clay PI=19
21	102.5	0.127	9.9	1749.1	0.1169	2044.8	685.9374	100	0.19214	Clay PI=19	Clay PI=19
22	107.5	0.127	8.8	1911.3	0.10002	2083.59	696.1302	105	0.19302	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	9	1874.9	0.11499	2155.96	689.4696	110	0.19331	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	9.2	1835	0.12187	2236.23	682.0938	115	0.19353	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	9.4	1793.1	0.12954	2322.72	674.2814	120	0.19404	EPRI 51-120'	EPRI 51-120'
26	130	0.127	7.5	2100.1	0.11499	2416.02	729.7029	125	0.19493	EPRI 121-250	EPRI 121-250
27	140	0.127	7.900001	2019.7	0.12867	2598.76	715.5988	135	0.1959	EPRI 121-250	EPRI 121-250
28	150	0.127	8.2	1943.4	0.14306	2780.39	701.9516	145	0.1958	EPRI 121-250	EPRI 121-250
29	160	0.127	8.6	1872.4	0.15796	2957.53	689.0098	155	0.19325	EPRI 121-250	EPRI 121-250
30	170	0.127	7.2	2886.7	0.10724	3095.64	855.5135	165	0.18838	EPRI 121-250	EPRI 121-250
31	180	0.127	7.1	3106.4	0.10517	3266.92	867.4722	175	0.18324	EPRI 121-250	EPRI 121-250
32	195	0.127	7.6	2978.9	0.11857	3532.18	869.0685	185	0.17717	EPRI 121-250	EPRI 121-250
33	215	0.128	8	2869.7	0.13384	3840.8	849.6522	205	0.16418	EPRI 121-250	EPRI 121-250
34	235	0.128	7.900001	3161.3	0.12875	4070.24	891.7761	225	0.15831	EPRI 121-250	EPRI 121-250
35	255	0.128	3.2	11205.5	0.03898	4143.72	1678.953	245	0.16181	EPRI 251-500	EPRI 251-500
36	290	0.128	5.5	4923.1	0.08266	4561.49	1112.885	265	0.16046	EPRI 251-500	EPRI 251-500
37	345	0.129	5.5	5536.4	0.09201	5093.9	1175.565	315	0.17451	EPRI 251-500	EPRI 251-500
38	412.5	0.13	5.4	6663.1	0.09013	6005.5	1284.878	375	0.1748	EPRI 251-500	EPRI 251-500
39	500	0.131	3.7	8954.2	0.07818	7000.52	1483.582	450	0.16623	EPRI501-1000	EPRI501-1000
40	610	0.132	3.7	9868.3	0.08052	7946.32	1551.537	550	0.1525	EPRI501-1000	EPRI501-1000
41	737.5	0.133	3.9	10750.8	0.08652	9301.41	1613.327	670	0.16143	EPRI501-1000	EPRI501-1000
42	905	0.135	2.6	21470.3	0.05019	10776.37	2262.977	805	0.14579	EPRI501-1000	EPRI501-1000
43	Base							1005	0.14218		

Run 0202n; Free Field (no MSW); Groundwater @ 5 ft.

	76.1%
Groundwater Depth =	5.0 ft.
PGA =	.287 g
Amax =	.287 g
CSR Max =	0.313
CSR Min =	0.114

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	109.5	0.182
7	585.0	0.182
12	792.7	0.248
17	1,045.7	0.285
20	1,258.8	0.304
25	1,471.5	0.307
33	1,848.4	0.307
38	2,260.3	0.313
43	2,583.3	0.308
48	2,906.3	0.302
53	3,229.3	0.293
60	3,609.9	0.278
65	3,990.5	0.273
70	4,313.5	0.262
75	4,636.5	0.251
80	4,959.5	0.242
85	5,282.5	0.232
90	5,605.5	0.224
95	5,928.5	0.216
100	6,251.5	0.210
105	6,574.5	0.202
110	6,897.5	0.196
115	7,220.5	0.194
120	7,543.5	0.193
125	7,866.5	0.192
135	8,351.0	0.188
145	8,997.0	0.188
155	9,643.0	0.187
165	10,289.0	0.187
175	10,935.0	0.184
185	11,581.0	0.183
205	12,650.0	0.183
225	13,952.0	0.180
245	15,184.0	0.174
265	16,476.0	0.163
315	18,772.0	0.156
375	22,410.0	0.148
450	26,943.0	0.145
550	32,908.0	0.138
670	40,514.0	0.127
805	49,455.5	0.122
1005	61,461.0	0.114





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.88 sec
Average Shear Wave Velocity for Soil Column: 1407 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE_270_21.EQ

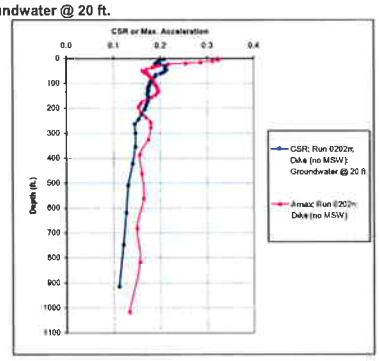
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

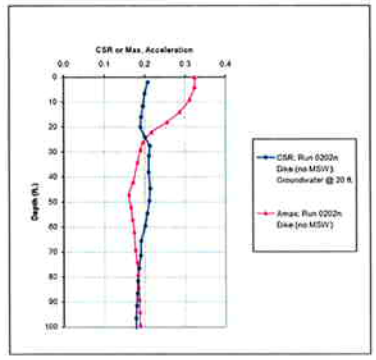
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	2.3	1745.8	0.00439	76.66	684.4387	0	0.32472	Clay PI=22	Clay PI=22
2	6.5	0.12	6.8	518.9	0.04627	240.1	373.1463	4	0.32387	Clay PI=22	Clay PI=22
3	11.5	0.12	9	413.2	0.10032	414.49	332.9796	9	0.31224	Clay PI=22	Clay PI=22
4	18	0.113	8.7	382	0.16512	561.46	321.1759	14	0.28684	Clay PI=30	Clay PI=30
5	20	0.113	9.8	327.6	0.20909	684.72	305.4882	16	0.25545	Clay PI=30	Clay PI=30
6	24	0.113	9.099999	449.4	0.17638	788.21	357.8535	22	0.21717	Clay PI=30	Clay PI=30
7	27.5	0.12	12	359.3	0.24976	897.39	310.5031	26	0.19704		
8	31.5	0.113	8.4	703.8	0.13585	956.15	447.8302	29	0.18934	Clay PI=30	Clay PI=30
9	38	0.125	7.5	1263.9	0.08514	1076.02	570.5967	34	0.18284	Sand Upper	Sand lower
10	44.5	0.127	10.5	890.1	0.13837	1231.65	475.0567	42	0.17145	Clay PI=19	Clay PI=19
11	49.5	0.127	10.9	844.8	0.15628	1320.33	462.8103	47	0.16162	Clay PI=19	Clay PI=19
12	54.5	0.127	11.2	813.6	0.17177	1397.52	454.1837	52	0.16574	Clay PI=19	Clay PI=19
13	59.5	0.127	10.9	930.7	0.15644	1455.84	485.7703	57	0.17022	Clay PI=19	Clay PI=19
14	65.5	0.125	8.5	1479.9	0.10081	1491.89	617.432	62	0.17419	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	10.8	1046.5	0.15276	1598.83	515.1049	69	0.17726	Clay PI=19	Clay PI=19
16	76.5	0.127	10.4	1217.8	0.13901	1656.32	555.6663	74	0.18065	Clay PI=19	Clay PI=19
17	81.5	0.127	10.5	1236.7	0.13938	1723.86	559.9816	79	0.18304	Clay PI=19	Clay PI=19
18	86.5	0.127	10.7	1202	0.14947	1796.5	552.0499	84	0.18482	Clay PI=19	Clay PI=19
19	91.5	0.127	10.5	1299.7	0.14362	1866.63	574.0472	89	0.18617	Clay PI=19	Clay PI=19
20	96.5	0.127	10.7	1262.8	0.15403	1945.09	565.8397	94	0.18711	Clay PI=19	Clay PI=19
21	101.5	0.127	11	1229.8	0.1648	2028.64	558.3073	99	0.18821	Clay PI=19	Clay PI=19
22	106.5	0.127	11.2	1199.5	0.17592	2110.15	551.4755	104	0.18993	Clay PI=19	Clay PI=19
23	111.5	0.127	10.2	1694	0.12828	2173.02	655.3643	109	0.19226	Clay PI=19	Clay PI=19
24	116.5	0.127	9.2	1837.7	0.12184	2239.05	682.5955	114	0.19376	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	9.4	1791.1	0.13007	2329.65	673.8853	119	0.19474	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	9.700001	1745.2	0.13876	2421.57	665.1945	124	0.19534	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	9.9	1700	0.14784	2513.28	656.5239	129	0.1953	EPRI 51-120'	EPRI 51-120'
28	139	0.127	7.900001	2012.8	0.12951	2606.74	714.3752	134	0.19459	EPRI 121-250	EPRI 121-250
29	149	0.127	8.299999	1934.3	0.14441	2793.25	700.3062	144	0.19041	EPRI 121-250	EPRI 121-250
30	159	0.127	8.7	1859.5	0.16012	2977.32	686.6322	154	0.1825	EPRI 121-250	EPRI 121-250
31	169	0.127	9.2	1790.3	0.17616	3153.73	673.7348	164	0.17143	EPRI 121-250	EPRI 121-250
32	179	0.127	7.6	2782	0.11712	3270.12	841.3637	174	0.16924	EPRI 121-250	EPRI 121-250
33	189	0.127	7.4	3022.6	0.11287	3405.84	876.4199	184	0.15608	EPRI 121-250	EPRI 121-250
34	204	0.127	7.7	2928.3	0.12278	3594.7	861.6556	194	0.15357	EPRI 121-250	EPRI 121-250
35	224	0.128	8	2869.4	0.13207	3789.5	849.6078	214	0.15819	EPRI 121-250	EPRI 121-250
36	244	0.128	7.8	3204.1	0.12299	3940.63	897.7925	234	0.16944	EPRI 121-250	EPRI 121-250
37	264	0.128	3.1	11270.6	0.03561	4013.85	1683.823	254	0.17937	EPRI 251-500	EPRI 251-500
38	299	0.128	5.5	4937.8	0.09258	4570.55	1114.525	274	0.18043	EPRI 251-500	EPRI 251-500
39	354	0.129	5.7	5422.8	0.09958	5400.22	1163.442	324	0.17445	EPRI 251-500	EPRI 251-500
40	421.5	0.13	5.5	6578.8	0.09372	6165.37	1276.526	384	0.15858	EPRI 251-500	EPRI 251-500
41	509	0.131	3.6	8084.3	0.07711	6627.55	1486.053	459	0.16074	EPRI501-1000	EPRI501-1000
42	619	0.132	3.8	9784.2	0.08404	8222.88	1544.912	559	0.16440	EPRI501-1000	EPRI501-1000
43	746.5	0.133	3.9	10896.1	0.08844	9450.53	1608.465	679	0.16028	EPRI501-1000	EPRI501-1000
44	914	0.135	2.6	21472	0.05027	10793.19	2263.066	814	0.15834	EPRI501-1000	EPRI501-1000
45	Base							1014	0.13402		

Run 0202n; Dike (no MSW); Groundwater @ 20 ft.

	106.4%
Groundwater Depth =	20.0 ft.
PGA =	.325 g
Amax =	.325 g
CSR Max =	0.214
CSR Min =	0.111

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.208
9	780.0	0.200
14	1,380.0	0.195
18	1,906.0	0.191
22	2,358.0	0.189
28	2,560.4	0.200
29	2,748.0	0.212
34	2,960.9	0.210
42	3,337.8	0.210
47	3,749.7	0.214
52	4,072.7	0.211
57	4,395.7	0.207
62	4,718.7	0.201
69	5,099.3	0.190
74	5,476.9	0.190
79	5,802.9	0.186
84	6,125.9	0.183
89	6,448.9	0.181
94	6,771.9	0.179
99	7,094.9	0.178
104	7,417.9	0.178
109	7,740.9	0.177
114	8,063.9	0.175
119	8,386.9	0.174
124	8,709.9	0.174
129	9,032.9	0.174
134	9,356.9	0.175
144	9,840.4	0.172
154	10,480.4	0.173
164	11,132.4	0.174
174	11,778.4	0.174
184	12,424.4	0.171
194	13,070.4	0.169
214	14,039.4	0.166
234	15,341.4	0.161
254	16,653.4	0.154
274	17,965.4	0.145
324	20,261.4	0.147
384	23,699.4	0.147
459	28,432.4	0.141
559	34,387.4	0.131
679	42,003.4	0.127
814	50,944.9	0.121
1014	62,970.4	0.111





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.94 sec
Average Shear Wave Velocity for Soil Column: 1405 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21 EQ

No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6	455.4	0.01311	59.7	428.1338	
2	7.5	0.08	8.299999	510.3	0.0346	176.59	453.2061	
3	13	0.08	9.6	546.4	0.05625	307.38	468.9627	
4	19	0.08	10.5	607.7	0.07357	447.05	494.5698	
5	25	0.08	11	675.2	0.08605	581.05	521.3137	
6	31	0.08	11.4	746.7	0.09487	708.36	548.2214	
7	35.5	0.12	7.4	1364.1	0.05745	783.68	605.007	
8	40.5	0.113	8.8	582.5	0.16874	924.57	407.4147	
9	45.5	0.12	12.3	392	0.27381	1073.41	324.325	
10	49.5	0.113	8.299999	829.2	0.13429	1113.63	486.0919	
11	56	0.125	7.5	1425	0.08551	1218.43	505.8713	
12	62.5	0.127	10.4	1003.3	0.13601	1364.52	504.361	
13	67.5	0.127	10.7	961.7	0.15023	1444.77	493.7941	
14	72.5	0.127	11	930.3	0.16291	1516.49	485.8650	
15	77.5	0.127	10.7	1038.1	0.15134	1571.06	513.0334	
16	83.5	0.125	8.4	1648.7	0.09704	1599.89	651.804	
17	89.5	0.127	10.6	1168.8	0.14584	1704.58	544.3725	
18	94.5	0.127	10.2	1351.1	0.13019	1759.04	585.2883	
19	99.5	0.127	10.3	1373.2	0.13283	1823.97	590.0557	
20	104.5	0.127	10.5	1338.5	0.14162	1895.7	582.5527	
21	109.5	0.127	10.4	1413.4	0.1392	1967.36	598.6302	
22	114.5	0.127	10.6	1375.5	0.14882	2047.03	590.5496	
23	119.5	0.127	10.8	1338.2	0.15016	2129.86	582.4875	
24	124.5	0.127	11.1	1305.5	0.16667	2215.01	575.3267	
25	129.5	0.127	10.1	1765.2	0.12776	2280.74	672.7745	
26	134.5	0.127	9.099999	1973.9	0.11881	2345.17	707.4384	
27	139.5	0.127	9.3	1926.6	0.1284	2435.19	698.9109	
28	144.5	0.127	9.5	1880	0.13437	2526.29	690.4067	
29	149.5	0.127	9.8	1834.8	0.14266	2617.48	682.0566	
30	157	0.127	7.8	2187.5	0.12491	2707.54	741.3198	
31	167	0.127	8.1	2088.7	0.13634	2888.64	727.7197	
32	177	0.127	8.5	2013.9	0.15241	3069.49	714.5704	
33	187	0.127	8.900001	1944.7	0.16671	3242.03	702.1863	
34	197	0.127	7.5	2888.5	0.11843	3363.11	855.7803	
35	207	0.127	7.4	3140.3	0.11147	3500.65	892.3016	
36	222	0.127	7.7	3043.9	0.12145	3690.73	878.499	
37	242	0.128	8	2982.4	0.13075	3899.62	866.1755	
38	262	0.128	7.7	3323.1	0.12184	4048.82	914.3125	
39	282	0.128	3.1	11655.6	0.03523	4106.41	1712.341	
40	317	0.128	5.4	5165.7	0.08975	4636.05	1135.528	
41	372	0.128	5.7	5578.2	0.09787	5464.78	1170.895	
42	439.5	0.13	5.6	6660.5	0.09393	6256.23	1284.428	
43	527	0.131	3.6	9063.3	0.0773	7005.59	1492.573	
44	637	0.132	3.8	9987.8	0.08266	8254.56	1560.887	
45	784.5	0.133	3.9	10812.9	0.08808	9523.49	1617.98	
46	932	0.135	2.8	21452.4	0.05047	10826.53	2262.033	
47	Base							

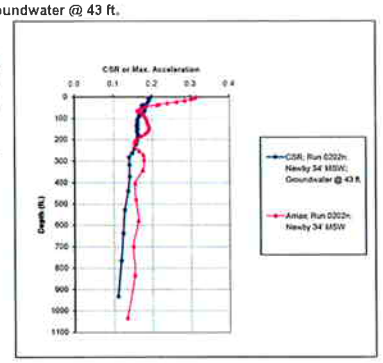
	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.31313	Waste (K&M)	Waste (K&M)
5	0.30994	Waste (K&M)	Waste (K&M)
10	0.3015	Waste (K&M)	Waste (K&M)
16	0.28542	Waste (K&M)	Waste (K&M)
22	0.26448	Waste (K&M)	Waste (K&M)
28	0.24002	Waste (K&M)	Waste (K&M)
34	0.21859	Clay PI=22	Clay PI=22
37	0.21335	Clay PI=30	Clay PI=30
44	0.1863		
47	0.17924	Clay PI=30	Clay PI=30
52	0.17224	Sand Upper	Sand lower
60	0.16511	Clay PI=19	Clay PI=19
65	0.16103	Clay PI=19	Clay PI=19
70	0.16626	Clay PI=19	Clay PI=19
75	0.17182	Clay PI=19	Clay PI=19
80	0.17639	EPRI 51-120'	EPRI 51-120'
87	0.17956	Clay PI=19	Clay PI=19
92	0.18254	Clay PI=19	Clay PI=19
97	0.18461	Clay PI=19	Clay PI=19
102	0.18582	Clay PI=19	Clay PI=19
107	0.18659	Clay PI=19	Clay PI=19
112	0.18666	Clay PI=19	Clay PI=19
117	0.1875	Clay PI=19	Clay PI=19
122	0.18869	Clay PI=19	Clay PI=19
127	0.19059	Clay PI=19	Clay PI=19
132	0.19187	EPRI 51-120'	EPRI 51-120'
137	0.19258	EPRI 51-120'	EPRI 51-120'
142	0.19297	EPRI 51-120'	EPRI 51-120'
147	0.19286	EPRI 51-120'	EPRI 51-120'
152	0.1921	EPRI 121-250	EPRI 121-250
162	0.1885	EPRI 121-250	EPRI 121-250
172	0.18204	EPRI 121-250	EPRI 121-250
182	0.17288	EPRI 121-250	EPRI 121-250
192	0.16279	EPRI 121-250	EPRI 121-250
202	0.15660	EPRI 121-250	EPRI 121-250
212	0.15402	EPRI 121-250	EPRI 121-250
232	0.15404	EPRI 121-250	EPRI 121-250
252	0.16664	EPRI 121-250	EPRI 121-250
272	0.17774	EPRI 251-500	EPRI 251-500
292	0.17928	EPRI 251-500	EPRI 251-500
342	0.1762	EPRI 251-500	EPRI 251-500
402	0.15656	EPRI 251-500	EPRI 251-500
477	0.15808	EPRI501-1000	EPRI501-1000
577	0.16412	EPRI501-1000	EPRI501-1000
697	0.16151	EPRI501-1000	EPRI501-1000
832	0.15477	EPRI501-1000	EPRI501-1000
1032	0.13464		

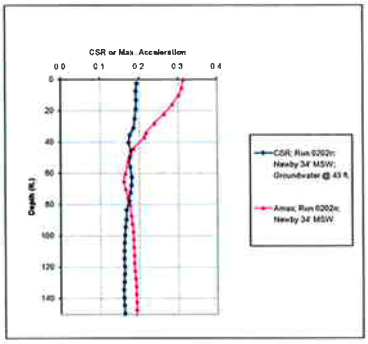
Run 0202n; Newby 34' MSW; Groundwater @ 43 ft.

110.5%

Groundwater Depth =	43.0 ft.
PGA =	.313 g
Amax =	.313 g
CSR Max =	0.194
CSR Min =	0.110

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.194
10	600.0	0.191
16	1,040.0	0.192
22	1,520.0	0.191
28	2,000.0	0.189
34	2,480.0	0.186
37	2,900.0	0.176
44	3,475.6	0.173
47	3,895.0	0.179
52	4,107.9	0.176
60	4,484.8	0.177
65	4,696.7	0.181
70	5,219.7	0.180
75	5,542.7	0.178
80	5,865.7	0.174
87	6,246.3	0.166
92	6,626.9	0.167
97	6,949.9	0.165
102	7,272.9	0.163
107	7,595.9	0.162
112	7,916.9	0.161
117	8,241.9	0.161
122	8,564.9	0.162
127	8,887.9	0.162
132	9,210.9	0.161
137	9,633.9	0.160
142	9,856.9	0.161
147	10,179.9	0.161
152	10,502.9	0.162
162	10,987.4	0.160
172	11,633.4	0.161
182	12,279.4	0.162
192	12,925.4	0.163
202	13,571.4	0.161
212	14,217.4	0.160
232	15,186.4	0.158
252	16,488.4	0.154
272	17,800.4	0.148
292	19,112.4	0.140
342	21,433.4	0.141
402	25,096.4	0.142
477	29,629.4	0.137
577	35,504.4	0.128
697	43,200.4	0.124
832	52,141.9	0.119
1032	64,167.4	0.110





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 3 sec
Average Shear Wave Velocity for Soil Column: 1397 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21 EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	5.9	455.5	0.01256	57.23	426.1808	
2	7.5	0.08	8.299999	488.1	0.03537	172.64	443.2384	
3	12.5	0.08	9.4	548.5	0.0526	288.49	469.863	
4	17.5	0.08	10.1	611.5	0.06582	402.61	496.1136	
5	22.5	0.08	10.7	653.9	0.07856	513.88	513.0251	
6	28	0.08	11	725.8	0.08685	630.38	540.4947	
7	34	0.08	11.5	770.9	0.09756	752.02	557.0344	
8	40	0.08	11.6	848.9	0.10179	864.15	584.5359	
9	46	0.08	11.8	900.4	0.10747	967.62	602.0059	
10	52	0.08	11.9	956.1	0.11113	1081.42	620.0224	
11	58	0.09	11.5	1155.5	0.09911	1146.22	642.9714	
12	63	0.12	8.5	1377.9	0.08844	1191.01	608.0598	
13	67.5	0.12	8.8	1333.8	0.09527	1270.63	598.25	
14	73.5	0.125	9.2	1014	0.13527	1371.65	511.0836	
15	79.5	0.127	10.5	1044.3	0.14141	1476.74	514.5632	
16	84.5	0.127	10.7	1009.5	0.15315	1546.08	505.917	
17	89.5	0.127	11	962	0.16389	1609.51	498.0785	
18	94.5	0.127	10.7	1095.5	0.15178	1662.85	527.0262	
19	100.5	0.125	8.4	1718.8	0.09859	1694.46	665.4043	
20	106.5	0.127	10.8	1174.3	0.1541	1809.48	545.8519	
21	111.5	0.127	10.4	1353.2	0.1383	1871.5	565.7429	
22	116.5	0.127	10.5	1372	0.14166	1943.53	569.7978	
23	121.5	0.127	10.7	1334.4	0.15145	2020.88	581.6590	
24	126.5	0.127	10.8	1407.1	0.14899	2096.4	597.2946	
25	131.5	0.127	10.8	1369.1	0.15918	2179.29	589.1741	
26	136.5	0.127	11.1	1335.9	0.16944	2263.56	581.9867	
27	141.5	0.127	11.3	1304.9	0.17992	2347.88	575.1945	
28	146.5	0.127	10.2	1841.1	0.13091	2410.18	683.2266	
29	151.5	0.127	9.3	1967.6	0.12586	2478.37	706.3086	
30	156.5	0.127	9.5	1921.5	0.13354	2568.04	697.9653	
31	161.5	0.127	9.700001	1876	0.14163	2657.05	689.6718	
32	166.5	0.127	10	1831.2	0.15008	2747.9	681.3872	
33	174	0.127	7.900001	2175.2	0.13056	2839.94	742.6354	
34	184	0.127	8.299999	2097.3	0.14409	3022.07	729.2163	
35	194	0.127	8.6	2025	0.15788	3196.94	716.5369	
36	204	0.127	9	1960.1	0.17128	3357.35	704.9612	
37	214	0.128	7.5	3033.8	0.11906	3457.41	873.6077	
38	224	0.128	7.4	3217.4	0.11127	3580	899.6539	
39	239	0.128	7.7	3131.4	0.11986	3753.3	887.5488	
40	259	0.128	8	3040.7	0.12968	3943.35	874.6005	
41	279	0.128	7.7	3385.6	0.12115	4101.61	922.8705	
42	299	0.128	3.1	11764.8	0.03583	4191.66	1720.329	
43	334	0.128	5.5	5161.5	0.09247	4772.83	1139.491	
44	389	0.129	5.7	5630.5	0.09944	5598.74	1185.514	
45	456.5	0.13	5.6	6741.8	0.09411	6344.84	1292.243	
46	544	0.131	3.6	9185.4	0.07759	7111.24	1500.958	
47	654	0.132	3.8	9930.4	0.08474	8415.16	1566.411	
48	781.5	0.133	3.9	10933.2	0.08789	9609.55	1628.956	
49	949	0.135	2.8	21412.5	0.05092	10903.13	2259.929	
50	Base							

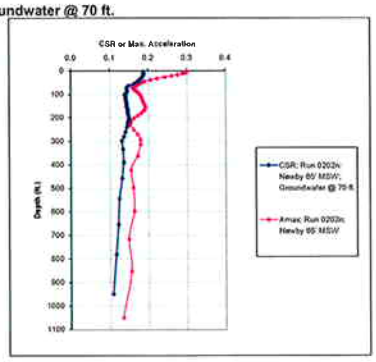
	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.3004	Waste (K&M)	Waste (K&M)
5	0.29736	Waste (K&M)	Waste (K&M)
10	0.28886	Waste (K&M)	Waste (K&M)
16	0.27644	Waste (K&M)	Waste (K&M)
20	0.26108	Waste (K&M)	Waste (K&M)
25	0.24281	Waste (K&M)	Waste (K&M)
31	0.22213	Waste (K&M)	Waste (K&M)
37	0.20603	Waste (K&M)	Waste (K&M)
43	0.18969	Waste (K&M)	Waste (K&M)
49	0.18222	Waste (K&M)	Waste (K&M)
55	0.17544	Waste (K&M)	Waste (K&M)
61	0.16854	Clay PI=22	Clay PI=22
65	0.16434	Clay PI=22	Clay PI=22
70	0.15968	Sand Upper	Sand lower
77	0.16332	Clay PI=19	Clay PI=19
82	0.16723	Clay PI=19	Clay PI=19
87	0.17128	Clay PI=19	Clay PI=19
92	0.17533	Clay PI=19	Clay PI=19
97	0.17862	EPRI 51-120'	EPRI 51-120'
104	0.18063	Clay PI=19	Clay PI=19
109	0.1826	Clay PI=19	Clay PI=19
114	0.18386	Clay PI=19	Clay PI=19
119	0.18493	Clay PI=19	Clay PI=19
124	0.18590	Clay PI=19	Clay PI=19
129	0.1872	Clay PI=19	Clay PI=19
134	0.18876	Clay PI=19	Clay PI=19
139	0.19045	Clay PI=19	Clay PI=19
144	0.1919	Clay PI=19	Clay PI=19
149	0.19235	EPRI 51-120'	EPRI 51-120'
154	0.19203	EPRI 51-120'	EPRI 51-120'
159	0.19114	EPRI 51-120'	EPRI 51-120'
164	0.18954	EPRI 51-120'	EPRI 51-120'
169	0.18719	EPRI 121-250	EPRI 121-250
179	0.18102	EPRI 121-250	EPRI 121-250
189	0.17259	EPRI 121-250	EPRI 121-250
199	0.16302	EPRI 121-250	EPRI 121-250
209	0.15575	EPRI 121-250	EPRI 121-250
219	0.15485	EPRI 121-250	EPRI 121-250
229	0.15291	EPRI 121-250	EPRI 121-250
249	0.1624	EPRI 121-250	EPRI 121-250
269	0.17235	EPRI 121-250	EPRI 121-250
289	0.17958	EPRI 251-500	EPRI 251-500
309	0.18008	EPRI 251-500	EPRI 251-500
359	0.17296	EPRI 251-500	EPRI 251-500
419	0.16526	EPRI 251-500	EPRI 251-500
494	0.16151	EPRI501-1000	EPRI501-1000
594	0.16401	EPRI501-1000	EPRI501-1000
714	0.14984	EPRI501-1000	EPRI501-1000
849	0.15616	EPRI501-1000	EPRI501-1000
1049	0.13433		

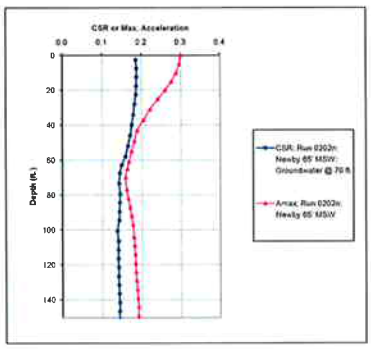
Run 0202n; Newby 65' MSW; Groundwater @ 70 ft.

97.2%

Groundwater Depth =	70.0 ft.
PGA =	.300 g
Amax =	.300 g
CSR Max =	0.188
CSR Min =	0.116

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.188
10	600.0	0.187
15	1,000.0	0.188
20	1,400.0	0.187
25	1,800.0	0.185
31	2,240.0	0.183
37	2,720.0	0.180
43	3,200.0	0.176
49	3,680.0	0.171
55	4,160.0	0.166
61	4,670.0	0.159
65	5,180.0	0.149
70	5,720.0	0.144
77	6,230.1	0.143
82	6,619.7	0.145
87	6,942.7	0.145
92	7,265.7	0.144
97	7,588.7	0.142
104	7,969.3	0.138
109	8,349.9	0.141
114	8,672.9	0.140
119	8,995.9	0.140
124	9,318.9	0.141
129	9,641.9	0.141
134	9,964.9	0.142
139	10,287.9	0.143
144	10,610.9	0.144
149	10,933.9	0.143
154	11,256.9	0.143
159	11,579.9	0.144
164	11,902.9	0.145
169	12,225.9	0.146
179	12,710.4	0.146
189	13,356.4	0.147
199	14,002.4	0.148
209	14,648.4	0.149
219	15,294.4	0.147
229	15,955.4	0.146
249	16,939.4	0.144
269	18,251.4	0.140
289	19,563.4	0.136
309	20,875.4	0.131
359	23,171.4	0.134
419	26,809.4	0.139
494	31,342.4	0.132
594	37,307.4	0.124
714	44,913.4	0.122
849	53,854.9	0.116
1049	65,880.4	0.108





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

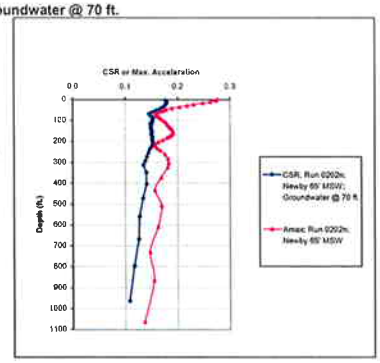
Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3.09 sec
Average Shear Wave Velocity for Soil Column: 1375 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21.EQ

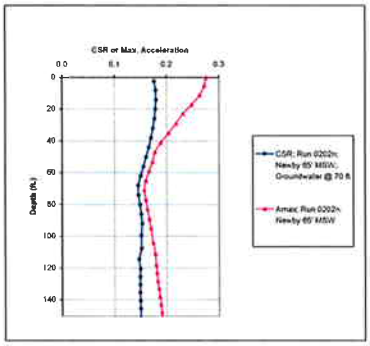
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

Run 0202n; Newby 95' MSW; Groundwater @ 70 ft.

	80.8%
Groundwater Depth =	70.0 ft.
PGA =	.275 g
Amax =	.275 g
CSR Max =	0.180
CSR Min =	0.117

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve	Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
1	2.5	0.08	5.8	455.8	0.01188	54.13	428.3217	0	0.27494	Waste (K&M)	Waste (K&M)	5	200.0	0.176
2	8	0.08	8.299999	510.4	0.03455	176.35	453.2505	5	0.27212	Waste (K&M)	Waste (K&M)	11	640.0	0.179
3	14	0.08	9.5	570.7	0.0542	309.3	479.2773	11	0.26247	Waste (K&M)	Waste (K&M)	17	1,120.0	0.180
4	20	0.08	10.3	633.9	0.06931	439.35	505.1166	17	0.24752	Waste (K&M)	Waste (K&M)	23	1,600.0	0.178
5	26	0.08	10.8	703.3	0.08021	564.18	532.051	23	0.23065	Waste (K&M)	Waste (K&M)	29	2,080.0	0.176
6	32	0.08	11.2	749.8	0.0911	683.12	549.3583	29	0.21777	Waste (K&M)	Waste (K&M)	35	2,560.0	0.173
7	38	0.08	11.4	828.3	0.09611	794.15	576.7025	35	0.20312	Waste (K&M)	Waste (K&M)	41	3,040.0	0.170
8	44	0.08	11.6	876.5	0.10239	897.46	593.9623	41	0.18826	Waste (K&M)	Waste (K&M)	47	3,520.0	0.166
9	50	0.09	11.2	1097.6	0.0904	992.27	626.6553	47	0.17748	Waste (K&M)	Waste (K&M)	53	4,030.0	0.160
10	56	0.09	11.3	1162.3	0.0937	1089.04	644.8605	53	0.17229	Waste (K&M)	Waste (K&M)	59	4,570.0	0.155
11	62	0.09	11.4	1230.1	0.09572	1177.46	663.4022	59	0.16576	Waste (K&M)	Waste (K&M)	65	5,110.0	0.150
12	68	0.09	11.4	1301.2	0.09666	1257.89	682.3052	65	0.15042	Waste (K&M)	Waste (K&M)	71	5,650.0	0.145
13	74	0.09	11.4	1375.6	0.09671	1330.31	701.5405	71	0.15672	Waste (K&M)	Waste (K&M)	77	5,940.4	0.146
14	80	0.09	11.4	1453	0.09611	1396.48	721.007	77	0.15038	Waste (K&M)	Waste (K&M)	83	6,108.0	0.149
15	86	0.09	11.3	1533.4	0.09505	1457.4	740.8865	83	0.16283	Waste (K&M)	Waste (K&M)	89	6,271.6	0.151
16	92	0.09	11.3	1616.5	0.09367	1514.24	760.4918	89	0.16594	Waste (K&M)	Waste (K&M)	95	6,437.2	0.153
17	99.5	0.12	9.700001	1189.5	0.13228	1573.39	564.9624	95	0.16896	Clay PI=22	Clay PI=22	104	6,779.2	0.151
18	107.5	0.127	11.4	914.5	0.1653	1694.6	481.524	104	0.17375	Clay PI=19	Clay PI=19	111	7,284.5	0.152
19	114.5	0.125	9.099999	1468	0.11868	1742.24	614.9446	111	0.17768	EPRI 51-120'	EPRI 51-120'	118	7,709.7	0.147
20	120.5	0.127	11.3	1023.9	0.18137	1857.01	509.5125	118	0.17898	Clay PI=19	Clay PI=19	123	8,090.3	0.149
21	125.5	0.127	10.9	1180.4	0.16263	1919.75	547.0672	123	0.18081	Clay PI=19	Clay PI=19	128	8,413.3	0.148
22	130.5	0.127	11	1198	0.1664	1993.43	551.1306	128	0.18224	Clay PI=19	Clay PI=19	133	8,736.3	0.148
23	135.5	0.127	11.2	1167.6	0.17752	2072.64	544.093	133	0.18424	Clay PI=19	Clay PI=19	138	9,059.3	0.149
24	140.5	0.127	11.2	1232.6	0.17433	2148.79	559.0329	138	0.18651	Clay PI=19	Clay PI=19	143	9,382.3	0.149
25	145.5	0.127	11.4	1201.8	0.18563	2230.99	552.004	143	0.18845	Clay PI=19	Clay PI=19	148	9,705.3	0.149
26	150.5	0.127	11.6	1171.6	0.19745	2313.32	545.0242	148	0.19	Clay PI=19	Clay PI=19	153	10,028.3	0.150
27	155.5	0.127	11.8	1141.9	0.20981	2395.81	538.0717	153	0.19094	Clay PI=19	Clay PI=19	158	10,351.3	0.150
28	160.5	0.127	10.7	1830.1	0.15059	2454.79	642.8848	158	0.19098	Clay PI=19	Clay PI=19	163	10,674.3	0.149
29	165.5	0.127	9.8	1746.9	0.14439	2522.32	665.6184	163	0.19009	EPRI 51-120'	EPRI 51-120'	168	10,997.3	0.149
30	170.5	0.127	10.1	1702.7	0.15342	2612.28	657.045	168	0.18843	EPRI 51-120'	EPRI 51-120'	173	11,320.3	0.150
31	175.5	0.127	10.3	1659.7	0.16292	2704.09	648.8955	173	0.18598	EPRI 51-120'	EPRI 51-120'	178	11,643.3	0.151
32	180.5	0.127	10.6	1618.6	0.17283	2797.35	640.6132	178	0.18285	EPRI 51-120'	EPRI 51-120'	183	11,966.3	0.152
33	188	0.127	8.4	1949.9	0.14802	2888.33	703.1245	183	0.1792	EPRI 121-250	EPRI 121-250	193	12,450.8	0.151
34	196	0.127	8.8	1878.6	0.16301	3062.26	690.1498	193	0.1714	EPRI 121-250	EPRI 121-250	203	13,096.8	0.152
35	208	0.127	9.2	1814.4	0.17767	3223.68	678.2543	203	0.16303	EPRI 121-250	EPRI 121-250	213	13,742.8	0.152
36	218	0.127	9.6	1759.7	0.19111	3362.98	667.9522	213	0.15643	EPRI 121-250	EPRI 121-250	223	14,388.8	0.152
37	228	0.127	7.8	2763.6	0.12439	3437.72	837.0737	223	0.15547	EPRI 121-250	EPRI 121-250	233	15,034.8	0.149
38	238	0.127	7.6	3029.5	0.11676	3537.18	878.4185	233	0.16009	EPRI 121-250	EPRI 121-250	243	15,680.8	0.147
39	253	0.127	7.8	2956.4	0.12487	3691.66	865.7802	243	0.1658	EPRI 121-250	EPRI 121-250	263	16,649.8	0.144
40	273	0.128	8.1	2907.6	0.1337	3887.47	855.2445	263	0.17541	EPRI 121-250	EPRI 121-250	283	17,951.8	0.141
41	293	0.128	7.8	3231.1	0.12664	4091.7	901.5673	283	0.1808	EPRI 121-250	EPRI 121-250	303	19,283.8	0.138
42	313	0.128	3.2	11314.5	0.03756	4249.31	1687.099	303	0.18203	EPRI 251-500	EPRI 251-500	323	20,575.8	0.134
43	348	0.129	5.7	4963.4	0.09891	4909.12	1113.071	323	0.18073	EPRI 251-500	EPRI 251-500	373	22,898.8	0.130
44	403	0.129	5.9	5368.4	0.10658	5721.77	1157.592	373	0.16811	EPRI 251-500	EPRI 251-500	433	26,659.8	0.140
45	470.5	0.13	5.6	6803.6	0.09682	6393.45	1278.93	433	0.15583	EPRI 251-500	EPRI 251-500	508	31,092.8	0.134
46	558	0.131	3.7	8985.9	0.08065	7246.77	1486.186	508	0.1889	EPRI501-1000	EPRI501-1000	608	37,057.8	0.127
47	668	0.132	3.9	9713.1	0.08873	8618.59	1539.288	608	0.16248	EPRI501-1000	EPRI501-1000	728	44,663.8	0.125
48	795.5	0.133	4	10610.5	0.091	9956.02	1602.766	728	0.14606	EPRI501-1000	EPRI501-1000	863	53,605.3	0.117
49	863	0.135	2.6	21398.6	0.05106	10926.66	2259.195	863	0.15443	EPRI501-1000	EPRI501-1000	1063	65,630.8	0.108
50	Base							1063	0.13602					





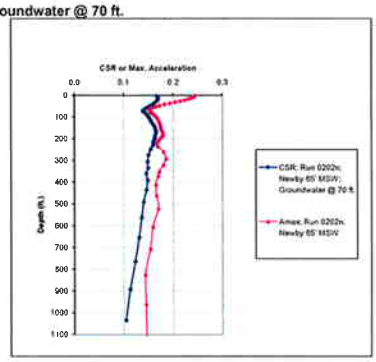
Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.38 sec
Average Shear Wave Velocity for Soil Column: 1313 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21.EQ

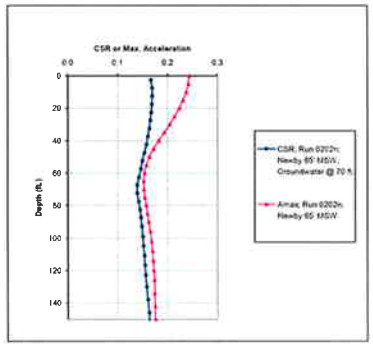
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

Run 0202n; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.243 g
Amax =	.243 g
CSR Max =	0.169
CSR Min =	0.112

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve	Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
1	2.5	0.08	5.7	456	0.01123	51.21	428.4157	0	0.24296	Waste (K&M)	Waste (K&M)	5	200.0	0.166
2	7.5	0.08	8.1	489.3	0.03103	156.24	443.7829	5	0.24143	Waste (K&M)	Waste (K&M)	10	600.0	0.169
3	12.5	0.08	9.099999	551.5	0.04726	260.74	471.1462	10	0.23719	Waste (K&M)	Waste (K&M)	15	1,000.0	0.169
4	17.5	0.08	9.8	615.2	0.05911	363.65	497.6123	15	0.2309	Waste (K&M)	Waste (K&M)	20	1,400.0	0.169
5	22.5	0.08	10.4	657.8	0.07055	464.1	514.5527	20	0.22305	Waste (K&M)	Waste (K&M)	25	1,800.0	0.168
6	27.5	0.08	10.6	731	0.07666	560.35	542.4274	25	0.21373	Waste (K&M)	Waste (K&M)	30	2,200.0	0.166
7	32.5	0.08	10.9	780.2	0.08389	652.93	560.3843	30	0.20356	Waste (K&M)	Waste (K&M)	35	2,600.0	0.163
8	37.5	0.08	11.1	832	0.08904	740.81	578.6882	35	0.19279	Waste (K&M)	Waste (K&M)	40	3,000.0	0.161
9	42.5	0.08	11.3	885.2	0.09304	823.57	596.9028	40	0.18194	Waste (K&M)	Waste (K&M)	45	3,400.0	0.157
10	47.5	0.09	10.9	1068.2	0.08448	902.37	618.2056	45	0.17165	Waste (K&M)	Waste (K&M)	50	3,825.0	0.153
11	52.5	0.09	11	1134.3	0.08675	983.94	637.0458	50	0.16366	Waste (K&M)	Waste (K&M)	55	4,275.0	0.150
12	57.5	0.09	11.2	1165.6	0.09105	1061.29	645.7763	55	0.15727	Waste (K&M)	Waste (K&M)	60	4,725.0	0.146
13	62.5	0.09	11.2	1235.4	0.09166	1132.38	664.8288	60	0.15301	Waste (K&M)	Waste (K&M)	65	5,175.0	0.142
14	67.5	0.09	11.2	1308.2	0.09161	1198.48	684.1381	65	0.15138	Waste (K&M)	Waste (K&M)	70	5,625.0	0.138
15	72.5	0.09	11.2	1383.8	0.09103	1258.64	703.6284	70	0.15196	Waste (K&M)	Waste (K&M)	75	5,919.0	0.138
16	77.5	0.09	11.3	1419.1	0.09289	1318.25	712.5484	75	0.15385	Waste (K&M)	Waste (K&M)	80	6,057.0	0.141
17	82.5	0.09	11.2	1499.3	0.09151	1371.93	732.4044	80	0.15643	Waste (K&M)	Waste (K&M)	85	6,195.0	0.144
18	87.5	0.09	11.3	1537.1	0.09264	1423.98	741.5795	85	0.15912	Waste (K&M)	Waste (K&M)	90	6,333.0	0.146
19	93	0.09	11.2	1620.7	0.09113	1476.9	761.4791	90	0.16182	Waste (K&M)	Waste (K&M)	96	6,484.8	0.148
20	99	0.09	11.1	1706.3	0.08986	1532.42	781.1008	96	0.1647	Waste (K&M)	Waste (K&M)	102	6,650.4	0.150
21	105	0.09	11.1	1792.1	0.08857	1587.27	800.7332	102	0.16715	Waste (K&M)	Waste (K&M)	108	6,816.0	0.151
22	111	0.09	11.1	1834.4	0.08955	1642.72	810.1281	108	0.16912	Waste (K&M)	Waste (K&M)	114	6,981.6	0.153
23	117	0.09	11.1	1924.4	0.08822	1697.76	829.7635	114	0.17069	Waste (K&M)	Waste (K&M)	120	7,147.2	0.154
24	123	0.09	11	2016.8	0.08697	1753.82	849.4084	120	0.17188	Waste (K&M)	Waste (K&M)	128	7,312.8	0.156
25	130	0.09	11.1	2060.7	0.08652	1824.06	858.6456	128	0.17276	Waste (K&M)	Waste (K&M)	134	7,506.0	0.158
26	138	0.09	11.1	2154.3	0.08851	1906.8	877.9297	134	0.17365	Waste (K&M)	Waste (K&M)	142	7,726.8	0.160
27	146	0.09	11.1	2249.9	0.08862	1993.94	897.1979	142	0.17433	Waste (K&M)	Waste (K&M)	150	7,947.6	0.163
28	154	0.12	10.5	1215.8	0.17191	2089.76	571.127	150	0.17501	Clay PI=22	Clay PI=22	158	8,288.4	0.164
29	161.5	0.125	11.7	1035.5	0.21473	2223.49	516.4734	158	0.17637	EPRI 51-120'	EPRI 51-120'	165	8,737.9	0.165
30	170	0.127	12.3	975.8	0.24205	2362	497.4008	165	0.17801	Clay PI=19	Clay PI=19	175	9,260.0	0.165
31	180	0.127	12.2	1057.7	0.23696	2506.33	517.854	175	0.17925	Clay PI=19	Clay PI=19	185	9,926.0	0.164
32	190	0.127	12.3	1098.1	0.24159	2652.99	527.6513	185	0.17792	Clay PI=19	Clay PI=19	195	10,572.0	0.163
33	200	0.127	12.6	1046.5	0.26742	2803.96	515.5969	195	0.17451	Clay PI=19	Clay PI=19	205	11,218.0	0.162
34	210	0.127	11.1	1556.4	0.18756	2919.57	628.1837	205	0.17022	EPRI 51-120'	EPRI 51-120'	215	11,884.0	0.160
35	220	0.127	11.3	1549.5	0.19793	3066.97	626.7897	215	0.16748	EPRI 51-120'	EPRI 51-120'	225	12,510.0	0.159
36	230	0.127	11.8	1487.4	0.21589	3211.13	614.1013	225	0.16662	EPRI 51-120'	EPRI 51-120'	235	13,156.0	0.159
37	247.5	0.127	9.5	1804.1	0.18782	3388.54	676.3265	235	0.16923	EPRI 121-250	EPRI 121-250	260	14,286.5	0.154
38	275	0.127	8.5	2430.1	0.15203	3694.6	784.9431	260	0.18017	EPRI 121-250	EPRI 121-250	290	16,083.0	0.150
39	305	0.128	8.2	2814.4	0.14069	4100.26	856.244	290	0.18625	EPRI 121-250	EPRI 121-250	320	18,019.0	0.148
40	335	0.128	8.5	2967.4	0.15408	4572.07	863.9945	320	0.18039	EPRI 121-250	EPRI 121-250	350	19,984.0	0.149
41	360	0.128	3.4	11211.9	0.04313	4835.15	1679.432	350	0.17196	EPRI 251-500	EPRI 251-500	370	21,624.0	0.145
42	390	0.128	6.1	4730.3	0.11367	5377.04	1090.658	370	0.1695	EPRI 251-500	EPRI 251-500	410	23,592.0	0.148
43	435	0.129	6.5	4976.4	0.12722	5947.96	1080.295	410	0.1648	EPRI 251-500	EPRI 251-500	460	26,569.0	0.146
44	490	0.129	5.7	6488.3	0.10043	6516.12	1272.819	460	0.16589	EPRI 251-500	EPRI 251-500	520	30,232.0	0.140
45	562.5	0.13	6	6597.2	0.11138	7347.93	1278.31	520	0.16953	EPRI 251-500	EPRI 251-500	605	35,103.0	0.136
46	655	0.131	4.1	8999.3	0.09286	8356.98	1487.293	605	0.159	EPRI501-1000	EPRI501-1000	705	41,406.0	0.131
47	765	0.132	4	10181.6	0.09128	9293.98	1575.974	705	0.15348	EPRI501-1000	EPRI501-1000	825	49,012.0	0.123
48	892.5	0.133	4	11072.6	0.09058	10029.16	1637.295	825	0.14345	EPRI501-1000	EPRI501-1000	960	57,953.5	0.112
49	1035	0.135	2.8	21350.4	0.0514	10973.62	2256.649	960	0.14469	EPRI501-1000	EPRI501-1000	1110	68,164.0	0.105
50	Base							1110	0.14482					





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.45 sec
Average Shear Wave Velocity for Soil Column: 1322 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

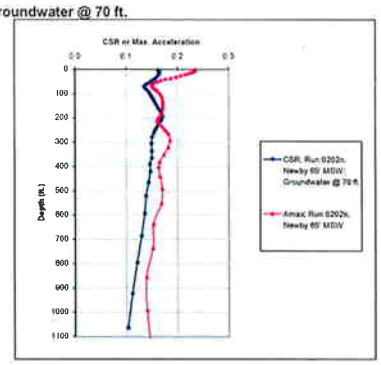
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	5.7	456.1	0.01092	49.79	428.4627	
2	7.5	0.08	8	489.6	0.03103	151.91	443.9189	
3	12.5	0.08	9	551.8	0.04595	253.55	471.2744	
4	17.5	0.08	9.700001	619.1	0.05736	353.64	497.9762	
5	22.5	0.08	10.3	658.9	0.06847	451.12	514.9828	
6	27.5	0.08	10.5	732.2	0.07437	544.51	542.8725	
7	32.5	0.08	10.8	781.5	0.08116	634.28	560.851	
8	37.5	0.08	11	833.4	0.08631	719.3	579.1749	
9	42.5	0.08	11.2	887.7	0.09006	799.44	597.7452	
10	47.5	0.09	10.9	1070	0.08187	875.99	618.7283	
11	52.5	0.09	10.9	1136.2	0.08404	954.95	637.5791	
12	57.5	0.09	11	1205.1	0.0854	1029.16	656.6262	
13	62.5	0.09	11.1	1238	0.08679	1099.25	665.5291	
14	67.5	0.09	11.1	1310.8	0.08877	1163.67	684.8176	
15	72.5	0.09	11.2	1346	0.09101	1225.05	693.9517	
16	77.5	0.09	11.2	1422.8	0.09004	1281.06	713.4747	
17	82.5	0.09	11.1	1502.1	0.08679	1333.65	733.088	
18	87.5	0.09	11.2	1540.8	0.08988	1384.83	742.4716	
19	95	0.09	11.2	1621.9	0.08987	1457.57	761.761	
20	105	0.09	11.1	1749	0.08861	1549.88	791.0457	
21	115	0.09	11.1	1880.9	0.08736	1643.12	820.3318	
22	125	0.09	11	2017.5	0.08627	1740.49	849.598	
23	135	0.105	10.5	2482.8	0.07439	1846.98	872.5778	
24	145	0.105	10.5	2650.3	0.07477	1981.57	901.5313	
25	155	0.105	10.6	2781	0.07689	2125.78	920.1667	
26	165	0.105	10.6	2937.3	0.0774	2273.45	949.0901	
27	175	0.105	10.7	3119.3	0.07785	2422.25	978.0518	
28	184	0.12	11	1285.8	0.19982	2569.27	587.3866	
29	191.5	0.125	12.2	1128.2	0.24008	2708.65	539.0958	
30	200	0.127	12.6	1085.8	0.26128	2837.04	524.6879	
31	210	0.127	12.6	1134	0.2618	2966.65	538.2072	
32	220	0.127	12.4	1236.5	0.24922	3081.6	569.9183	
33	230	0.127	12.7	1197.8	0.26668	3194.23	551.0845	
34	240	0.127	11.2	1803.2	0.1932	3271.34	655.2095	
35	250	0.127	11.4	1706.5	0.19808	3360.13	657.7778	
36	260	0.127	11.7	1657.6	0.21106	3498.63	648.285	
37	277.5	0.127	9.4	2021.6	0.18171	3673.38	715.9351	
38	305	0.127	8.5	2665.4	0.15188	4047.61	822.0671	
39	335	0.128	8.299999	3067.3	0.14721	4515.48	878.4177	
40	365	0.128	8.6	3127.4	0.159	4972.67	888.9817	
41	390	0.128	3.4	11918.3	0.04364	5200.9	1731.53	
42	420	0.128	8.1	5005.5	0.11366	5689.49	1122.139	
43	465	0.129	8.5	4878.4	0.12712	6201.55	1103.499	
44	520	0.129	5.7	6851.6	0.09907	6787.58	1307.763	
45	592.5	0.13	6.1	6828.8	0.1124	7675.83	1300.554	
46	685	0.131	4.1	9323.2	0.09221	8596.6	1613.822	
47	795	0.132	4	10576.2	0.08906	9418.88	1806.223	
48	922.5	0.133	4	11320.7	0.09009	10198.34	1855.638	
49	1065	0.135	2.7	21319.4	0.05166	11012.81	2255.01	
50	Base							

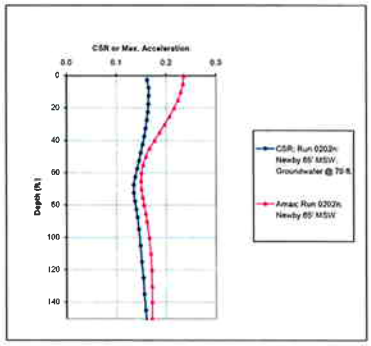
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.23595	Waste (K&M)	Waste (K&M)
5	0.23444	Waste (K&M)	Waste (K&M)
10	0.23025	Waste (K&M)	Waste (K&M)
15	0.22408	Waste (K&M)	Waste (K&M)
20	0.21646	Waste (K&M)	Waste (K&M)
25	0.20731	Waste (K&M)	Waste (K&M)
30	0.19751	Waste (K&M)	Waste (K&M)
35	0.18707	Waste (K&M)	Waste (K&M)
40	0.17662	Waste (K&M)	Waste (K&M)
45	0.16685	Waste (K&M)	Waste (K&M)
50	0.15637	Waste (K&M)	Waste (K&M)
55	0.15373	Waste (K&M)	Waste (K&M)
60	0.15043	Waste (K&M)	Waste (K&M)
65	0.1497	Waste (K&M)	Waste (K&M)
70	0.15093	Waste (K&M)	Waste (K&M)
75	0.15327	Waste (K&M)	Waste (K&M)
80	0.156	Waste (K&M)	Waste (K&M)
85	0.15878	Waste (K&M)	Waste (K&M)
90	0.16141	Waste (K&M)	Waste (K&M)
100	0.16587	Waste (K&M)	Waste (K&M)
110	0.16901	Waste (K&M)	Waste (K&M)
120	0.17088	Waste (K&M)	Waste (K&M)
130	0.17175	Waste (K&M)	Waste (K&M)
140	0.17181	Waste (K&M)	Waste (K&M)
150	0.17152	Waste (K&M)	Waste (K&M)
160	0.17103	Waste (K&M)	Waste (K&M)
170	0.1703	Waste (K&M)	Waste (K&M)
180	0.16923	Clay PI=22	Clay PI=22
188	0.16654	EPRI 51-120'	EPRI 51-120'
195	0.16388	Clay PI=19	Clay PI=19
205	0.16056	Clay PI=19	Clay PI=19
215	0.16095	Clay PI=19	Clay PI=19
225	0.16444	Clay PI=19	Clay PI=19
235	0.17011	EPRI 51-120'	EPRI 51-120'
245	0.17446	EPRI 51-120'	EPRI 51-120'
255	0.17867	EPRI 51-120'	EPRI 51-120'
265	0.18283	EPRI 121-250	EPRI 121-250
290	0.18559	EPRI 121-250	EPRI 121-250
320	0.18227	EPRI 121-250	EPRI 121-250
350	0.17393	EPRI 121-250	EPRI 121-250
380	0.16512	EPRI 251-500	EPRI 251-500
400	0.16359	EPRI 251-500	EPRI 251-500
440	0.16589	EPRI 251-500	EPRI 251-500
490	0.17001	EPRI 251-500	EPRI 251-500
550	0.16912	EPRI 251-500	EPRI 251-500
635	0.15343	EPRI501-1000	EPRI501-1000
735	0.15241	EPRI501-1000	EPRI501-1000
855	0.13643	EPRI501-1000	EPRI601-1000
990	0.14126	EPRI501-1000	EPRI501-1000
1140	0.14825		

Run 0202n; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.236 g
Amax =	.236 g
CSR Max =	0.171
CSR Min =	0.111

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.162
10	600.0	0.165
15	1,000.0	0.165
20	1,400.0	0.164
25	1,800.0	0.163
30	2,200.0	0.161
35	2,600.0	0.159
40	3,000.0	0.156
45	3,400.0	0.153
50	3,825.0	0.149
55	4,275.0	0.145
60	4,725.0	0.142
65	5,175.0	0.138
70	5,625.0	0.134
75	5,919.0	0.135
80	6,057.0	0.137
85	6,195.0	0.140
90	6,333.0	0.142
100	6,640.0	0.145
110	6,816.0	0.148
120	7,002.0	0.151
130	7,369.0	0.154
140	7,719.0	0.156
150	8,145.0	0.158
160	8,571.0	0.161
170	8,997.0	0.164
180	9,423.0	0.167
188	9,866.4	0.169
195	10,315.9	0.171
205	10,858.0	0.170
215	11,504.0	0.168
225	12,150.0	0.165
235	12,796.0	0.162
245	13,442.0	0.158
255	14,088.0	0.156
265	14,734.0	0.154
290	15,864.5	0.151
320	17,641.0	0.149
350	19,564.0	0.150
380	21,562.0	0.150
400	23,202.0	0.149
440	25,170.0	0.147
490	28,147.0	0.143
550	31,810.0	0.139
635	36,681.0	0.136
735	42,984.0	0.130
855	50,590.0	0.121
990	59,531.5	0.111
1140	69,742.0	0.103





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.57 sec
Average Shear Wave Velocity for Soil Column: 1321 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

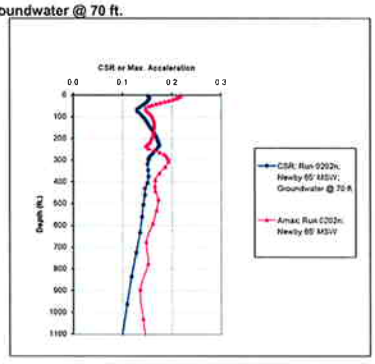
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	5.6	456.4	0.01018	46.44	428.6035	
2	7.5	0.08	7.8	490.4	0.02892	141.82	444.2815	
3	12.5	0.08	8.8	552.7	0.04285	236.84	471.6585	
4	17.5	0.08	9.5	618.4	0.05341	330.34	498.9048	
5	22.5	0.08	10.1	661.3	0.06370	421.87	515.9108	
6	27.5	0.08	10.3	734.9	0.06934	509.59	543.8725	
7	32.5	0.08	10.6	784.4	0.07576	594.25	561.8908	
8	37.5	0.08	10.8	836.4	0.08068	674.87	580.2164	
9	42.5	0.09	10.6	1009.3	0.07459	752.79	609.9202	
10	47.5	0.09	10.7	1072.9	0.07775	834.2	619.5642	
11	55	0.09	10.9	1136.5	0.08344	948.33	637.6633	
12	65	0.09	11.1	1238.7	0.08759	1065.03	665.7172	
13	75	0.09	11	1367.4	0.08681	1204.4	704.543	
14	85	0.09	11.1	1503.3	0.08732	1312.71	733.3807	
15	95	0.09	11	1624.8	0.08896	1412.97	762.4417	
16	105	0.09	11	1761.6	0.08818	1500.57	791.6335	
17	115	0.09	11	1883.2	0.08536	1607.57	820.8332	
18	125	0.09	10.9	2019.6	0.08484	1709.3	850.04	
19	135	0.105	10.5	2484.9	0.07322	1819.39	872.9487	
20	145	0.105	10.5	2652.3	0.07372	1955.3	901.8714	
21	155	0.105	10.6	2763	0.07597	2096.93	920.4999	
22	165	0.105	10.6	2939.5	0.07634	2243.96	949.4455	
23	175	0.105	10.6	3121.7	0.07654	2389.5	978.428	
24	185	0.105	10.7	3242.7	0.07818	2535.28	997.2101	
25	195	0.105	10.7	3398.5	0.07958	2678.96	1016.068	
26	205	0.105	10.7	3562.8	0.07912	2818.8	1045.271	
27	215	0.105	10.8	3693.4	0.08009	2958.03	1064.257	
28	224	0.12	11.5	1355.3	0.22872	3099.92	603.0524	
29	231.5	0.125	13.1	1110.7	0.28881	3233.66	537.0612	
30	240	0.127	13.2	1063.8	0.3135	3334.92	519.3452	
31	250	0.127	13	1172.9	0.29211	3426.31	545.3265	
32	260	0.127	12.8	1242.6	0.28198	3503.86	561.2957	
33	270	0.127	13	1217.4	0.29395	3579.64	555.575	
34	280	0.127	11.5	1782.7	0.20357	3629.08	672.3032	
35	290	0.127	11.7	1744.1	0.21385	3729.82	664.9849	
36	300	0.127	12	1698.7	0.22691	3854.48	656.2728	
37	317.5	0.127	9.700001	2079.8	0.19609	4078.26	726.1676	
38	345	0.127	9	2632.4	0.17208	4529.7	816.9623	
39	375	0.128	8.7	3113	0.16053	4997.11	884.9373	
40	405	0.128	9.099999	3112.6	0.17342	5397.7	884.8805	
41	430	0.128	3.5	12347.8	0.04518	5579.19	1762.454	
42	460	0.128	6.2	5182.2	0.11615	6018.91	1141.774	
43	505	0.129	8.5	5066.6	0.12891	6531.22	1124.583	
44	560	0.129	5.8	6934.7	0.10369	7190.55	1315.67	
45	632.5	0.13	6.2	6927.2	0.11587	8026.55	1309.891	
46	725	0.131	4.1	9529.9	0.09202	8769.53	1530.511	
47	835	0.132	4	10687.7	0.08896	9507.89	1614.667	
48	962.5	0.133	4	11602.4	0.08839	10255.3	1676.008	
49	1105	0.135	2.8	21347.8	0.05117	10923.33	2256.512	
50	Base							

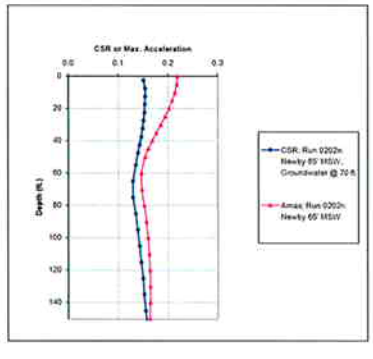
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.21969	Waste (K&M)	Waste (K&M)
5	0.21836	Waste (K&M)	Waste (K&M)
10	0.2147	Waste (K&M)	Waste (K&M)
15	0.20928	Waste (K&M)	Waste (K&M)
20	0.20251	Waste (K&M)	Waste (K&M)
25	0.19462	Waste (K&M)	Waste (K&M)
30	0.18611	Waste (K&M)	Waste (K&M)
35	0.17717	Waste (K&M)	Waste (K&M)
40	0.16831	Waste (K&M)	Waste (K&M)
45	0.16098	Waste (K&M)	Waste (K&M)
50	0.15409	Waste (K&M)	Waste (K&M)
60	0.14738	Waste (K&M)	Waste (K&M)
70	0.14608	Waste (K&M)	Waste (K&M)
80	0.1523	Waste (K&M)	Waste (K&M)
90	0.15684	Waste (K&M)	Waste (K&M)
100	0.16043	Waste (K&M)	Waste (K&M)
110	0.16287	Waste (K&M)	Waste (K&M)
120	0.16417	Waste (K&M)	Waste (K&M)
130	0.16465	Waste (K&M)	Waste (K&M)
140	0.16444	Waste (K&M)	Waste (K&M)
150	0.16398	Waste (K&M)	Waste (K&M)
160	0.16345	Waste (K&M)	Waste (K&M)
170	0.16282	Waste (K&M)	Waste (K&M)
180	0.16192	Waste (K&M)	Waste (K&M)
190	0.16089	Waste (K&M)	Waste (K&M)
200	0.159	Waste (K&M)	Waste (K&M)
210	0.1569	Waste (K&M)	Waste (K&M)
220	0.15454	Clay PI=22	Clay PI=22
228	0.14981	EPRI 51-120'	EPRI 51-120'
235	0.14732	Clay PI=19	Clay PI=19
245	0.15211	Clay PI=19	Clay PI=19
255	0.15432	Clay PI=19	Clay PI=19
265	0.17583	Clay PI=19	Clay PI=19
275	0.18545	EPRI 51-120'	EPRI 51-120'
285	0.19013	EPRI 51-120'	EPRI 51-120'
295	0.19297	EPRI 51-120'	EPRI 51-120'
305	0.19373	EPRI 121-250	EPRI 121-250
330	0.18633	EPRI 121-250	EPRI 121-250
360	0.17473	EPRI 121-250	EPRI 121-250
390	0.16642	EPRI 121-250	EPRI 121-250
420	0.16585	EPRI 251-500	EPRI 251-500
440	0.16654	EPRI 251-500	EPRI 251-500
480	0.17275	EPRI 251-500	EPRI 251-500
530	0.16915	EPRI 251-500	EPRI 251-500
590	0.16203	EPRI 251-500	EPRI 251-500
675	0.14828	EPRI501-1000	EPRI501-1000
775	0.15221	EPRI501-1000	EPRI501-1000
895	0.13634	EPRI501-1000	EPRI501-1000
1030	0.14186	EPRI501-1000	EPRI501-1000
1180	0.15075		

Run 0202n; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.220 g
Amax =	.220 g
CSR Max =	0.174
CSR Min =	0.109

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.151
10	600.0	0.154
15	1,000.0	0.154
20	1,400.0	0.153
25	1,800.0	0.152
30	2,200.0	0.151
35	2,600.0	0.149
40	3,000.0	0.146
45	3,425.0	0.143
50	3,875.0	0.140
60	4,550.0	0.135
70	5,450.0	0.129
80	6,038.0	0.130
90	6,314.0	0.135
100	6,590.0	0.139
110	6,866.0	0.143
120	7,142.0	0.146
130	7,418.0	0.150
140	7,769.0	0.152
150	8,195.0	0.155
160	8,621.0	0.158
170	9,047.0	0.161
180	9,473.0	0.164
190	9,899.0	0.166
200	10,325.0	0.169
210	10,751.0	0.170
220	11,177.0	0.172
228	11,620.4	0.173
235	12,069.9	0.174
245	12,612.0	0.172
255	13,258.0	0.168
265	13,904.0	0.164
275	14,550.0	0.160
285	15,196.0	0.155
295	15,842.0	0.153
305	16,488.0	0.152
330	17,818.5	0.150
360	19,395.0	0.152
390	21,346.0	0.152
420	23,316.0	0.150
440	24,656.0	0.145
480	26,924.0	0.145
530	29,801.0	0.142
590	33,564.0	0.139
675	38,435.0	0.136
775	44,738.0	0.127
895	52,344.0	0.118
1030	61,285.5	0.109
1180	71,496.0	0.099





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.76 sec
Average Shear Wave Velocity for Soil Column: 1315 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\GEBZE 270 21.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

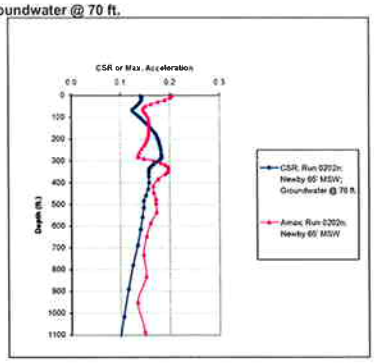
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)
1	2.5	0.08	5.5	456.7	0.00848	43.18	428.7444
2	7.5	0.08	7.7	491.3	0.02685	131.9	444.6858
3	15	0.08	9	574.9	0.04604	264.7	481.0377
4	25	0.08	10.2	650.9	0.06919	436.76	515.3734
5	35	0.08	10.6	784.1	0.07609	596.64	561.7831
6	45	0.08	10.9	891.4	0.08338	743.25	598.8896
7	55	0.08	11.1	1007.8	0.08684	875.14	636.8984
8	65	0.08	11.2	1098.9	0.09046	994.02	665.0619
9	75	0.08	11.2	1231	0.08934	1099.75	703.9017
10	85	0.09	10.7	1511.6	0.0793	1198.73	735.4025
11	95	0.09	10.8	1632.7	0.07686	1303.94	764.293
12	105	0.09	10.8	1758.9	0.08006	1408.26	793.2614
13	115	0.09	10.8	1890	0.08009	1513.7	822.3138
14	125	0.09	10.8	2025.9	0.08009	1622.56	851.3648
15	135	0.09	10.8	2116.1	0.08207	1736.63	870.1113
16	145	0.09	10.8	2259.7	0.08199	1852.67	899.1496
17	155	0.09	10.9	2355.1	0.08373	1972.08	917.9336
18	165	0.09	10.9	2509.8	0.08341	2091.04	947.0361
19	175	0.09	10.9	2663.5	0.08296	2209.53	976.167
20	185	0.105	10.4	3259	0.0715	2330.03	999.7133
21	195	0.105	10.5	3382.8	0.07302	2470.06	1018.524
22	205	0.105	10.5	3576.2	0.0729	2609.27	1047.674
23	215	0.105	10.5	3709.5	0.07412	2749.38	1066.574
24	225	0.105	10.6	3842.8	0.07518	2888.72	1085.54
25	237.5	0.105	10.6	4050.1	0.07654	3059.47	1114.464
26	252.5	0.105	10.6	4281.2	0.07649	3250.21	1143.14
27	267.5	0.105	10.6	4478.9	0.07704	3450.3	1171.977
28	279	0.12	11.8	1444	0.2504	3615.82	622.4736
29	288.5	0.125	14.2	1023	0.36588	3742.77	513.3467
30	296	0.127	13.8	1026	0.37111	3807.63	510.0347
31	305	0.127	13.5	1139.7	0.33845	3857.31	537.553
32	315	0.127	13.3	1218.3	0.31684	3866.45	556.7804
33	325	0.127	13.3	1204.9	0.32757	3948.85	552.7154
34	335	0.127	12	1756.8	0.22797	4004.82	667.4016
35	345	0.127	12.3	1714.7	0.24074	4127.9	659.3563
36	355	0.127	12.6	1660.3	0.2581	4285.24	648.8127
37	372.5	0.127	10.3	2044	0.22331	4564.52	719.8906
38	400	0.127	9.8	2593.2	0.19314	5008.65	810.8566
39	430	0.128	9.3	3018.6	0.17916	5404.4	871.1277
40	460	0.128	9.4	3130.4	0.18296	5727.53	887.407
41	485	0.128	3.5	12513.9	0.04727	5915.47	1774.288
42	515	0.128	8.4	5165.2	0.12204	6350	1139.899
43	560	0.129	8.7	5044.3	0.1368	6900.89	1122.105
44	615	0.129	6	6910.3	0.10904	7535.28	1313.353
45	687.5	0.13	6.3	6960.8	0.11788	8205.17	1313.045
46	780	0.131	4.1	9641.1	0.09151	8822.1	1539.415
47	880	0.132	4	10819.9	0.08816	9537.63	1624.823
48	1017.5	0.133	3.9	11765.5	0.08669	10199.38	1687.747
49	1160	0.135	2.8	21444.2	0.04994	10708.55	2281.601
50	Base						

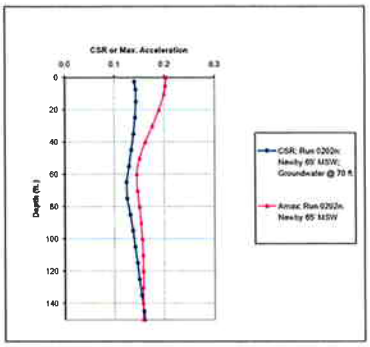
Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.20391	Waste (K&M)	Waste (K&M)
5	0.20284	Waste (K&M)	Waste (K&M)
10	0.19992	Waste (K&M)	Waste (K&M)
20	0.18997	Waste (K&M)	Waste (K&M)
30	0.17628	Waste (K&M)	Waste (K&M)
40	0.16207	Waste (K&M)	Waste (K&M)
50	0.15055	Waste (K&M)	Waste (K&M)
60	0.14509	Waste (K&M)	Waste (K&M)
70	0.14818	Waste (K&M)	Waste (K&M)
80	0.14997	Waste (K&M)	Waste (K&M)
90	0.15319	Waste (K&M)	Waste (K&M)
100	0.15556	Waste (K&M)	Waste (K&M)
110	0.15695	Waste (K&M)	Waste (K&M)
120	0.1575	Waste (K&M)	Waste (K&M)
130	0.15752	Waste (K&M)	Waste (K&M)
140	0.15733	Waste (K&M)	Waste (K&M)
150	0.15719	Waste (K&M)	Waste (K&M)
160	0.15716	Waste (K&M)	Waste (K&M)
170	0.15703	Waste (K&M)	Waste (K&M)
180	0.15669	Waste (K&M)	Waste (K&M)
190	0.15572	Waste (K&M)	Waste (K&M)
200	0.15432	Waste (K&M)	Waste (K&M)
210	0.15244	Waste (K&M)	Waste (K&M)
220	0.15012	Waste (K&M)	Waste (K&M)
230	0.14746	Waste (K&M)	Waste (K&M)
245	0.14314	Waste (K&M)	Waste (K&M)
260	0.13895	Waste (K&M)	Waste (K&M)
275	0.13571	Clay PI=22	Clay PI=22
283	0.13529	EPRI 51-120'	EPRI 51-120'
290	0.14728	Clay PI=19	Clay PI=19
300	0.16767	Clay PI=19	Clay PI=19
310	0.18216	Clay PI=19	Clay PI=19
320	0.1914	Clay PI=19	Clay PI=19
330	0.1967	EPRI 51-120'	EPRI 51-120'
340	0.19741	EPRI 51-120'	EPRI 51-120'
350	0.19553	EPRI 51-120'	EPRI 51-120'
360	0.19142	EPRI 121-250	EPRI 121-250
385	0.17615	EPRI 121-250	EPRI 121-250
415	0.16671	EPRI 121-250	EPRI 121-250
445	0.16661	EPRI 121-250	EPRI 121-250
475	0.17151	EPRI 251-500	EPRI 251-500
495	0.17174	EPRI 251-500	EPRI 251-500
535	0.17308	EPRI 251-500	EPRI 251-500
585	0.16114	EPRI 251-500	EPRI 251-500
645	0.15322	EPRI 251-500	EPRI 251-500
730	0.14672	EPRI501-1000	EPRI501-1000
830	0.15163	EPRI501-1000	EPRI501-1000
950	0.13427	EPRI501-1000	EPRI501-1000
1085	0.14827	EPRI501-1000	EPRI501-1000
1235	0.14592		

Run 0202n; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.204 g
Amax =	.204 g
CSR Max =	0.183
CSR Min =	0.108

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.140
10	600.0	0.143
20	1,200.0	0.143
30	2,000.0	0.142
40	2,800.0	0.139
50	3,600.0	0.134
60	4,400.0	0.129
70	5,200.0	0.124
80	5,668.0	0.126
90	5,914.0	0.132
100	6,160.0	0.137
110	6,466.0	0.142
120	6,742.0	0.146
130	7,018.0	0.150
140	7,294.0	0.155
150	7,570.0	0.159
160	7,846.0	0.163
170	8,122.0	0.167
180	8,398.0	0.171
190	8,749.0	0.173
200	9,175.0	0.175
210	9,601.0	0.177
220	10,027.0	0.178
230	10,453.0	0.180
245	10,985.5	0.181
260	11,624.5	0.182
275	12,263.5	0.183
283	12,613.4	0.183
290	13,262.9	0.183
300	13,805.0	0.179
310	14,451.0	0.174
320	15,097.0	0.168
330	15,743.0	0.163
340	16,389.0	0.159
350	17,035.0	0.158
360	17,681.0	0.158
385	18,811.5	0.158
415	20,588.0	0.158
445	22,541.0	0.156
475	24,599.0	0.152
495	26,140.0	0.147
535	28,117.0	0.147
585	31,084.0	0.144
645	34,757.0	0.141
730	39,828.0	0.135
830	45,931.0	0.125
950	53,637.0	0.116
1085	62,478.5	0.106
1235	72,880.0	0.098





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.613 g
Max EQ PGA for All Soil Profiles =	.620 g
Min EQ PGA for All Soil Profiles =	.404 g

U. Wt. of Water =	62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.76 sec
Average Shear Wave Velocity for Soil Column: 1446 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

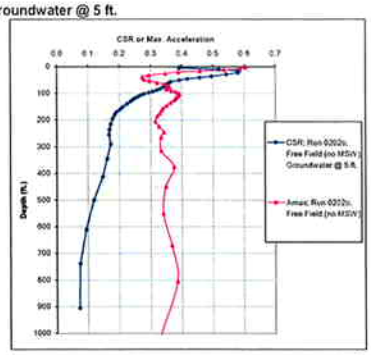
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

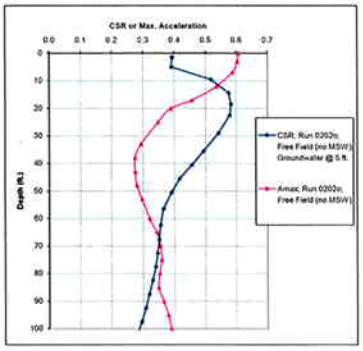
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3.9	601.3	0.01705	102.55	413.6371	0	0.60651	Clay PI=30	Clay PI=30
2	5	0.113	6.9	452.7	0.07499	339.51	359.165	3	0.60387	Clay PI=30	Clay PI=30
3	9.5	0.113	9.2	342.6	0.18442	631.89	312.4514	7	0.5881	Clay PI=30	Clay PI=30
4	14.5	0.113	10.3	350.3	0.2647	927.33	315.943	12	0.63651	Clay PI=30	Clay PI=30
5	18.5	0.12	13.8	287.2	0.30336	1129.62	277.6064	17	0.4678		
6	22.5	0.113	9.700001	600.8	0.21817	1310.79	413.7649	20	0.38654	Clay PI=30	Clay PI=30
7	29	0.125	10.4	873.2	0.17677	1543.8	474.2745	25	0.34868	Sand Upper	Sand lower
8	35.5	0.127	12.5	589.2	0.2496	1720.32	418.0216	33	0.29383	Clay PI=19	Clay PI=19
9	40.5	0.127	12.4	756.3	0.23980	1814.33	437.8682	38	0.2742	Clay PI=19	Clay PI=19
10	45.5	0.127	12.5	758.8	0.24529	1963.18	438.8525	43	0.27491	Clay PI=19	Clay PI=19
11	50.5	0.127	12.1	887.1	0.21857	1942.76	476.9211	48	0.2789	Clay PI=19	Clay PI=19
12	56.5	0.125	10.9	1173.7	0.17267	2028.66	549.8502	53	0.2964	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	12.7	828.5	0.26398	2187.07	458.3237	60	0.32124	Clay PI=19	Clay PI=19
14	67.5	0.127	12.4	953.4	0.24484	2334.3	491.6586	65	0.34513	Clay PI=19	Clay PI=19
15	72.5	0.127	12.6	951.9	0.2599	2474.07	491.2717	70	0.35665	Clay PI=19	Clay PI=19
16	77.5	0.127	12.9	909	0.28566	2596.54	480.0738	75	0.36045	Clay PI=19	Clay PI=19
17	82.5	0.127	12.8	984.1	0.27287	2686.21	496.5117	80	0.35369	Clay PI=19	Clay PI=19
18	87.5	0.127	13	956.3	0.2883	2758.9	492.4058	85	0.35051	Clay PI=19	Clay PI=19
19	92.5	0.127	13.1	936.8	0.29973	2807.78	487.3596	90	0.3668	Clay PI=19	Clay PI=19
20	97.5	0.127	13.2	925.4	0.30616	2833.37	484.3852	95	0.38116	Clay PI=19	Clay PI=19
21	102.5	0.127	11.8	1377.7	0.20517	2826.79	591.0217	100	0.39019	Clay PI=19	Clay PI=19
22	107.5	0.127	11.2	1498.5	0.18926	2837.92	616.594	105	0.39165	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	11.3	1487.6	0.19291	2869.71	614.1425	110	0.38747	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	11.5	1470.8	0.19789	2910.62	610.6648	115	0.38227	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	11.6	1453.2	0.20329	2954.28	607.0001	120	0.37871	EPRI 51-120'	EPRI 51-120'
26	130	0.127	9.099999	1766.6	0.1865	3030.6	675.2947	125	0.3781	EPRI 121-250	EPRI 121-250
27	140	0.127	9.3	1762.7	0.17632	3107.87	668.5214	135	0.36482	EPRI 121-250	EPRI 121-250
28	150	0.127	9.4	1746.6	0.17962	3137.24	665.4613	145	0.35253	EPRI 121-250	EPRI 121-250
29	160	0.127	9.6	1724.5	0.18533	3195.08	661.2378	155	0.34129	EPRI 121-250	EPRI 121-250
30	170	0.127	7.6	2770.9	0.11622	3220.44	838.1785	165	0.33833	EPRI 121-250	EPRI 121-250
31	180	0.127	7.4	3036.8	0.1067	3300.93	877.4738	175	0.33005	EPRI 121-250	EPRI 121-250
32	195	0.127	7.6	2970.6	0.11655	3462.08	867.857	185	0.32209	EPRI 121-250	EPRI 121-250
33	215	0.128	7.8	2924.3	0.12553	3670.76	857.697	205	0.31811	EPRI 121-250	EPRI 121-250
34	235	0.128	7.7	3231.2	0.12165	3927.4	901.5812	225	0.32756	EPRI 121-250	EPRI 121-250
35	255	0.128	3.2	11101	0.03797	4249.69	1677.886	245	0.34319	EPRI 251-500	EPRI 251-500
36	290	0.128	5.8	4793.3	0.10424	4996.39	1098.096	285	0.33481	EPRI 251-500	EPRI 251-500
37	345	0.129	5.9	5352.9	0.10425	5580.53	1155.02	315	0.33388	EPRI 251-500	EPRI 251-500
38	412.5	0.13	5.6	6570	0.093	6109.92	1276.672	375	0.37521	EPRI 251-500	EPRI 251-500
39	500	0.131	3.2	9341.1	0.0842	5996.94	1515.274	450	0.34931	EPRI501-1000	EPRI501-1000
40	610	0.132	2.8	10732.9	0.05441	5839.44	1618.078	550	0.34136	EPRI501-1000	EPRI501-1000
41	737.5	0.133	2.4	12241.9	0.04827	5964.06	1721.577	670	0.36782	EPRI501-1000	EPRI501-1000
42	905	0.135	2	22664.6	0.03012	6826.89	2326.065	805	0.38521	EPRI501-1000	EPRI501-1000
43	Base							1005	0.33316		

Run 0202o; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth =	5.0 ft.
PGA =	.607 g
Amax =	.607 g
CSR Max =	0.583
CSR Min =	0.072

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	169.5	0.303
7	565.0	0.501
12	782.7	0.518
17	1,045.7	0.576
20	1,258.6	0.583
25	1,471.5	0.579
33	1,848.4	0.543
38	2,260.3	0.495
43	2,583.3	0.457
48	2,906.3	0.417
53	3,229.3	0.391
60	3,609.9	0.365
65	3,990.5	0.356
70	4,313.5	0.352
75	4,636.5	0.347
80	4,959.5	0.340
85	5,282.5	0.331
90	5,605.5	0.320
95	5,928.5	0.308
100	6,251.5	0.295
105	6,574.5	0.279
110	6,897.5	0.267
115	7,220.5	0.258
120	7,543.5	0.251
125	7,866.5	0.244
135	8,351.0	0.238
145	8,997.0	0.225
155	9,643.0	0.211
165	10,289.0	0.202
175	10,935.0	0.191
185	11,581.0	0.185
205	12,550.0	0.178
225	13,852.0	0.172
245	15,154.0	0.168
285	18,476.0	0.168
315	18,772.0	0.173
375	22,410.0	0.162
450	26,943.0	0.147
550	32,908.0	0.118
670	40,514.0	0.094
805	49,455.5	0.074
1005	61,481.0	0.072





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.83 sec
Average Shear Wave Velocity for Soil Column: 1436 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

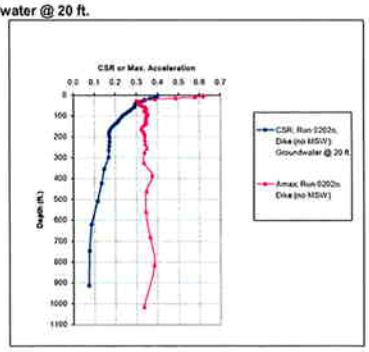
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

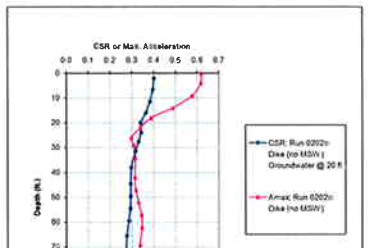
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	3.3	1656.6	0.00886	146.48	666.7241	0	0.6197	Clay PI=22	Clay PI=22
2	6.5	0.12	9.6	360.7	0.12509	476.17	319.6162	4	0.61730	Clay PI=22	Clay PI=22
3	11.5	0.12	12.7	260.2	0.3125	813.01	284.2354	9	0.57834	Clay PI=22	Clay PI=22
4	16	0.113	12.1	242.1	0.44036	1066.04	282.6553	14	0.48738	Clay PI=30	Clay PI=30
5	20	0.113	13.1	212.6	0.57800	1230.56	246.1333	18	0.38819	Clay PI=30	Clay PI=30
6	24	0.113	12	316.4	0.42492	1344.53	300.2665	22	0.33906	Clay PI=30	Clay PI=30
7	27.5	0.12	16	214.4	0.64964	1393.48	239.8555	26	0.29763		
8	31.5	0.113	10.3	565.2	0.25855	1435.44	397.753	29	0.30878	Clay PI=30	Clay PI=30
9	36	0.125	10.6	855.1	0.178	1522.18	469.3333	34	0.31584	Sand Upper	Sand lower
10	44.5	0.127	12.4	697.4	0.24308	1695.21	420.501	42	0.31444	Clay PI=19	Clay PI=19
11	49.5	0.127	12.9	655	0.28104	1840.70	407.6179	47	0.31776	Clay PI=19	Clay PI=19
12	54.5	0.127	13.3	616.8	0.31971	1971.79	395.4561	52	0.33062	Clay PI=19	Clay PI=19
13	59.5	0.127	13	710.3	0.29254	2077.84	424.3723	57	0.34309	Clay PI=19	Clay PI=19
14	65.5	0.125	11.3	1128.2	0.19216	2167.99	539.0958	62	0.34872	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	13	789.6	0.29076	2295.69	447.4347	66	0.33813	Clay PI=19	Clay PI=19
16	76.5	0.127	12.6	931.6	0.25346	2361.37	486.0051	74	0.33425	Clay PI=19	Clay PI=19
17	81.5	0.127	12.8	953.9	0.25366	2419.94	491.7875	79	0.34017	Clay PI=19	Clay PI=19
18	86.5	0.127	12.7	936.6	0.26384	2471.23	487.3076	84	0.34022	Clay PI=19	Clay PI=19
19	91.5	0.127	12.4	1033.3	0.24342	2515.18	511.846	89	0.35327	Clay PI=19	Clay PI=19
20	96.5	0.127	12.5	1018.1	0.25235	2569.13	508.0674	94	0.35195	Clay PI=19	Clay PI=19
21	101.5	0.127	12.7	899.5	0.26318	2630.19	503.4049	99	0.34751	Clay PI=19	Clay PI=19
22	106.5	0.127	12.8	978.6	0.27552	2695.18	498.1136	104	0.34378	Clay PI=19	Clay PI=19
23	111.5	0.127	11.6	1417.5	0.19391	2748.74	566.4978	109	0.34361	Clay PI=19	Clay PI=19
24	116.5	0.127	11.1	1521.9	0.18449	2807.88	621.1824	114	0.34364	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	11.3	1490.5	0.19284	2874.28	614.7408	119	0.34319	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	11.5	1463	0.20036	2931.25	609.0434	124	0.34283	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	11.7	1440.7	0.20654	2975.52	604.3839	129	0.34367	EPRI 51-120'	EPRI 51-120'
28	139	0.127	9	1808.0	0.16479	2980.95	677.2258	134	0.34501	EPRI 121-250	EPRI 121-250
29	149	0.127	9.2	1790.2	0.16881	3022.04	673.716	144	0.33554	EPRI 121-250	EPRI 121-250
30	159	0.127	9.2	1777.4	0.1722	3060.72	671.3031	154	0.32479	EPRI 121-250	EPRI 121-250
31	169	0.127	9.4	1757.9	0.17836	3135.39	667.6105	164	0.32076	EPRI 121-250	EPRI 121-250
32	179	0.127	7.5	2793	0.11561	3228.87	841.5144	174	0.33104	EPRI 121-250	EPRI 121-250
33	189	0.127	7.4	3023.4	0.11285	3405.86	875.5357	184	0.33728	EPRI 121-250	EPRI 121-250
34	204	0.127	7.900001	2893.2	0.12822	3709.85	856.4762	194	0.33888	EPRI 121-250	EPRI 121-250
35	224	0.128	8.299999	2782.1	0.14616	4066.3	836.5836	214	0.33976	EPRI 121-250	EPRI 121-250
36	244	0.128	8.2	3054.8	0.1432	4374.5	876.626	234	0.34024	EPRI 121-250	EPRI 121-250
37	264	0.128	3.4	11021.9	0.04195	4623.25	1665.142	254	0.34581	EPRI 251-500	EPRI 251-500
38	299	0.128	6	4993.8	0.11082	5201.79	1086.639	274	0.33788	EPRI 251-500	EPRI 251-500
39	354	0.129	5.8	5397.1	0.09973	5382.75	1160.662	324	0.33486	EPRI 251-500	EPRI 251-500
40	421.5	0.13	5.4	6681.3	0.08773	5861.57	1286.432	384	0.37379	EPRI 251-500	EPRI 251-500
41	509	0.131	3.2	9334.9	0.06431	6003.39	1514.772	459	0.34737	EPRI501-1000	EPRI501-1000
42	619	0.132	2.6	10913.5	0.05028	5464.86	1631.635	550	0.34318	EPRI501-1000	EPRI501-1000
43	746.5	0.133	2.5	12170.5	0.0491	5975.15	1716.549	679	0.36335	EPRI501-1000	EPRI501-1000
44	914	0.135	2	22584.7	0.03116	7037.74	2320.993	814	0.3845	EPRI501-1000	EPRI501-1000
45	Base							1014	0.33432		

Run 0202o; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth =	20.0 ft.
PGA =	.620 g
Amax =	.620 g
CSR Max =	0.402
CSR Min =	0.073

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.402
9	780.0	0.397
14	1,380.0	0.383
18	1,906.0	0.364
22	2,358.0	0.339
26	2,560.4	0.341
29	2,748.0	0.330
34	2,960.9	0.315
42	3,337.8	0.299
47	3,749.7	0.294
52	4,072.7	0.294
57	4,395.7	0.292
62	4,718.7	0.286
69	5,099.3	0.278
74	5,479.9	0.272
79	5,802.9	0.265
84	6,125.9	0.257
89	6,448.9	0.249
94	6,771.9	0.241
99	7,094.9	0.235
104	7,417.9	0.230
109	7,740.9	0.226
114	8,063.9	0.222
119	8,386.9	0.218
124	8,709.9	0.215
129	9,032.9	0.211
134	9,355.9	0.207
144	9,840.4	0.197
154	10,486.4	0.187
164	11,132.4	0.179
174	11,778.4	0.173
184	12,424.4	0.169
194	13,070.4	0.169
214	14,039.4	0.172
234	15,341.4	0.172
254	16,653.4	0.171
274	17,965.4	0.167
324	20,281.4	0.167
384	23,869.4	0.146
459	28,432.4	0.134
550	34,397.4	0.113
679	42,003.4	0.085
814	50,944.9	0.076
1014	62,970.4	0.073





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.88 sec
Average Shear Wave Velocity for Soil Column: 1433 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

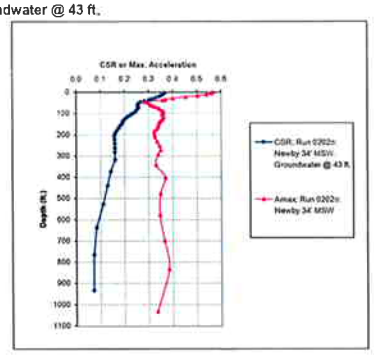
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7.5	449.3	0.02507	112.65	425.2567	
2	7.5	0.08	10.2	496.7	0.06734	334.48	447.1261	
3	13	0.08	11.9	521.6	0.10875	567.26	458.1965	
4	19	0.08	12.8	573.2	0.1399	801.89	480.326	
5	25	0.08	13.4	629.8	0.16067	1011.97	503.4824	
6	31	0.08	13.6	693.2	0.17235	1194.78	526.2169	
7	35.5	0.12	9.8	1036.4	0.12944	1344.15	527.8611	
8	40.5	0.113	11.3	431.6	0.34813	1502.38	350.9949	
9	45.5	0.12	15.9	244.5	0.85023	1589.8	256.1396	
10	49.5	0.113	10.2	666.1	0.24703	1645.49	435.6708	
11	56	0.125	10.7	960.6	0.18275	1755.53	497.444	
12	62.5	0.127	12.4	788.8	0.24151	1906.28	446.6407	
13	67.5	0.127	12.8	742	0.27674	2053.44	433.7388	
14	72.5	0.127	13.2	669.7	0.31353	2193.87	421.1938	
15	77.5	0.127	13	778.1	0.2962	2304.85	444.1644	
16	83.5	0.125	11.2	1242	0.19256	2361.88	565.6317	
17	89.5	0.127	13	870.9	0.28825	2510.34	469.9052	
18	94.5	0.127	12.5	1024.3	0.25041	2564.88	509.612	
19	99.5	0.127	12.4	1053.7	0.24738	2606.77	516.8738	
20	104.5	0.127	12.5	1041.8	0.25347	2640.59	513.9499	
21	109.5	0.127	12.3	1121.6	0.23754	2664.27	533.2675	
22	114.5	0.127	12.4	1110	0.24246	2691.25	530.5027	
23	119.5	0.127	12.5	1096.1	0.24788	2722.13	527.6513	
24	124.5	0.127	12.8	1065	0.25439	2760.18	524.4945	
25	129.5	0.127	11.4	1519.1	0.18373	2790.98	620.6107	
26	134.5	0.127	10.7	1674.8	0.16964	2841.04	651.8307	
27	139.5	0.127	10.9	1646.1	0.1767	2908.72	648.0322	
28	144.5	0.127	11.1	1615.8	0.18432	2978.29	640.0588	
29	149.5	0.127	11.3	1588.9	0.19116	3037.22	634.7086	
30	157	0.127	8.7	1967.2	0.15655	3079.48	706.2388	
31	167	0.127	8.900001	1937.5	0.16264	3151.13	700.8853	
32	177	0.127	9.099999	1918.2	0.16688	3200.7	697.3857	
33	187	0.127	9.099999	1906	0.17019	3243.79	695.1844	
34	197	0.127	7.6	2898.3	0.11363	3293.34	857.2308	
35	207	0.127	7.3	3171.8	0.1079	3422.15	896.7374	
36	222	0.127	7.6	3061.1	0.12042	3666.21	880.9776	
37	242	0.128	8.1	2852	0.13676	4037.04	861.7496	
38	262	0.128	8	3223.1	0.13556	4370.15	900.4505	
39	282	0.128	3.3	11429	0.0499	4674.56	1695.614	
40	317	0.129	6	4912.1	0.10793	5301.84	1107.304	
41	372	0.129	5.7	5537.6	0.09934	5501.06	1175.893	
42	439.5	0.13	5.4	6777.6	0.08602	5891.01	1295.67	
43	527	0.131	3.2	9427.3	0.06438	6099.42	1522.25	
44	637	0.132	2.6	11105.8	0.04999	5552.33	1645.047	
45	764.5	0.133	2.5	12347.2	0.04743	5856.84	1728.966	
46	932	0.135	2	22569.9	0.031	7005.1	2321.744	
47	Base							

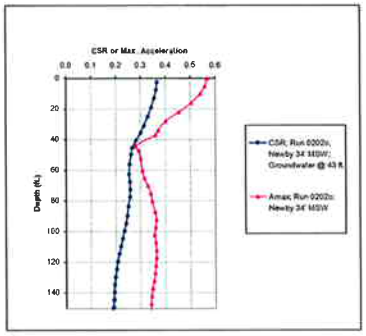
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.58639 Waste (K&M)	Waste (K&M)
5	0.55848 Waste (K&M)	Waste (K&M)
10	0.53952 Waste (K&M)	Waste (K&M)
16	0.50281 Waste (K&M)	Waste (K&M)
22	0.4543 Waste (K&M)	Waste (K&M)
28	0.40062 Waste (K&M)	Waste (K&M)
34	0.3861 Clay PI=22	Clay PI=22
37	0.35805 Clay PI=30	Clay PI=30
44	0.27934	
47	0.29189 Clay PI=30	Clay PI=30
52	0.30112 Sand Upper	Sand lower
60	0.30708 Clay PI=19	Clay PI=19
65	0.31514 Clay PI=19	Clay PI=19
70	0.32904 Clay PI=19	Clay PI=19
75	0.34058 Clay PI=19	Clay PI=19
80	0.34566 EPRI 51-120'	EPRI 51-120'
87	0.35662 Clay PI=19	Clay PI=19
92	0.36226 Clay PI=19	Clay PI=19
97	0.36934 Clay PI=19	Clay PI=19
102	0.36414 Clay PI=19	Clay PI=19
107	0.35924 Clay PI=19	Clay PI=19
112	0.36217 Clay PI=19	Clay PI=19
117	0.36187 Clay PI=19	Clay PI=19
122	0.35858 Clay PI=19	Clay PI=19
127	0.35698 Clay PI=19	Clay PI=19
132	0.35311 EPRI 51-120'	EPRI 51-120'
137	0.34721 EPRI 51-120'	EPRI 51-120'
142	0.34306 EPRI 51-120'	EPRI 51-120'
147	0.34087 EPRI 51-120'	EPRI 51-120'
152	0.34089 EPRI 121-250	EPRI 121-250
162	0.33831 EPRI 121-250	EPRI 121-250
172	0.33435 EPRI 121-250	EPRI 121-250
182	0.32361 EPRI 121-250	EPRI 121-250
192	0.32205 EPRI 121-250	EPRI 121-250
202	0.32488 EPRI 121-250	EPRI 121-250
212	0.32573 EPRI 121-250	EPRI 121-250
232	0.33807 EPRI 121-250	EPRI 121-250
252	0.34433 EPRI 121-250	EPRI 121-250
272	0.34938 EPRI 251-500	EPRI 251-500
292	0.3309 EPRI 251-500	EPRI 251-500
342	0.33009 EPRI 251-500	EPRI 251-500
402	0.36788 EPRI 251-500	EPRI 251-500
477	0.34817 EPRI501-1000	EPRI501-1000
577	0.34543 EPRI501-1000	EPRI501-1000
697	0.36409 EPRI501-1000	EPRI501-1000
832	0.38228 EPRI501-1000	EPRI501-1000
1032	0.33593	

Run 0202o; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.566 g
Amax =	.566 g
CSR Max =	0.366
CSR Min =	0.071

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.366
10	600.0	0.362
16	1,040.0	0.355
22	1,520.0	0.343
28	2,000.0	0.329
34	2,460.0	0.313
37	2,900.0	0.301
44	3,475.5	0.281
47	3,895.0	0.265
52	4,107.9	0.260
60	4,484.8	0.254
65	4,806.7	0.252
70	5,219.7	0.256
75	5,542.7	0.257
80	5,865.7	0.255
87	6,246.3	0.249
92	6,826.9	0.248
97	6,949.9	0.240
102	7,272.9	0.233
107	7,595.9	0.226
112	7,918.9	0.219
117	8,241.9	0.212
122	8,564.9	0.207
127	8,867.9	0.202
132	9,210.9	0.197
137	9,533.9	0.194
142	9,856.9	0.192
147	10,179.9	0.190
152	10,502.9	0.188
162	10,987.4	0.182
172	11,633.4	0.176
182	12,279.4	0.169
192	12,925.4	0.163
202	13,571.4	0.158
212	14,217.4	0.156
232	16,186.4	0.158
252	16,458.4	0.159
272	17,800.4	0.160
292	19,112.4	0.159
342	21,433.4	0.161
402	25,096.4	0.142
477	29,629.4	0.129
577	35,504.4	0.111
697	43,200.4	0.084
832	52,141.9	0.073
1032	64,167.4	0.071





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 2.94 sec
Average Shear Wave Velocity for Soil Column: 1429 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

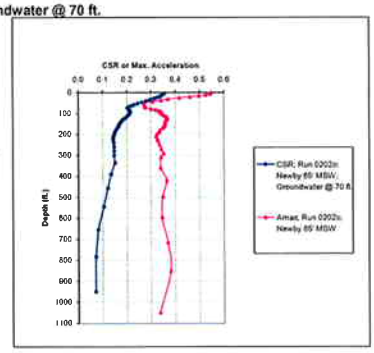
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7.4	449.6	0.02428	109.1	425.3987	
2	7.5	0.08	10.3	474.9	0.06821	323.93	437.2039	
3	12.5	0.08	11.6	525.6	0.10083	529.96	450.95	
4	17.5	0.08	12.4	580.2	0.12469	723.39	483.2499	
5	22.5	0.08	13	615.5	0.14643	901.36	497.7336	
6	28	0.08	13.3	678.4	0.15874	1076.94	522.5476	
7	34	0.08	13.7	716.7	0.17329	1241.92	537.0957	
8	40	0.08	13.7	792.1	0.17398	1378.21	564.6417	
9	46	0.08	13.7	843.1	0.17619	1485.39	582.5356	
10	52	0.08	13.7	899.6	0.17415	1566.63	601.7383	
11	58	0.09	13	1106.9	0.14789	1636.89	629.3048	
12	63	0.12	10.3	1101.4	0.15754	1735.19	543.6381	
13	67.5	0.12	10.6	1073.7	0.16966	1821.61	536.7583	
14	73.5	0.125	12.5	706	0.27292	1926.87	426.457	
15	79.5	0.127	12.6	810.7	0.25865	2096.78	453.3735	
16	84.5	0.127	13	765.3	0.29336	2245.08	440.496	
17	89.5	0.127	13.3	728.9	0.32705	2377.45	428.3025	
18	94.5	0.127	13.1	812.6	0.3052	2480.11	453.9045	
19	100.5	0.125	11.3	1290.6	0.19805	2556.03	576.5922	
20	106.5	0.127	13.1	873.9	0.30466	2662.44	470.7138	
21	111.5	0.127	12.6	1029.5	0.26255	2703.06	510.9039	
22	116.5	0.127	12.6	1059.5	0.2578	2731.48	518.2944	
23	121.5	0.127	12.6	1048.9	0.26206	2746.63	515.6953	
24	126.5	0.127	12.4	1133.3	0.24355	2760.3	536.0416	
25	131.5	0.127	12.5	1124.4	0.24717	2779.17	533.6327	
26	136.5	0.127	12.5	1112.8	0.2524	2808.74	531.1713	
27	141.5	0.127	12.6	1098.5	0.25924	2847.59	527.7474	
28	146.5	0.127	11.4	1589.5	0.18114	2879.21	634.8284	
29	151.5	0.127	10.8	1694.4	0.1724	2921.24	655.4417	
30	156.5	0.127	11	1669.2	0.17806	2972.09	650.5494	
31	161.5	0.127	11.1	1644.1	0.18395	3024.22	645.6396	
32	166.5	0.127	11.3	1622.5	0.18892	3069.15	641.3845	
33	174	0.127	8.7	2019.8	0.15279	3086.01	715.8164	
34	184	0.127	8.8	1998.9	0.15722	3142.65	711.9043	
35	194	0.127	8.900001	1984	0.16123	3198.73	709.246	
36	204	0.127	9	1964	0.16683	3276.67	705.6621	
37	214	0.128	7.3	3071.9	0.10935	3359.09	879.0761	
38	224	0.128	7.2	3256.6	0.10758	3506.95	905.5347	
39	239	0.128	7.6	3140.4	0.12042	3781.78	888.8233	
40	259	0.128	8.1	2996.7	0.13777	4128.54	868.2498	
41	279	0.128	8	3274.6	0.13563	4441.3	907.6158	
42	299	0.128	3.3	11546	0.04107	4742.31	1704.271	
43	334	0.128	6	4934.8	0.10693	5376.59	1114.186	
44	389	0.129	5.7	5631.4	0.09607	5523.01	1185.608	
45	456.5	0.13	5.3	6915	0.08438	5835.07	1308.737	
46	544	0.131	3.1	9603.1	0.06217	5969.91	1536.378	
47	654	0.132	2.8	11128.7	0.04963	5523.30	1647.843	
48	781.5	0.133	2.5	12468.8	0.04716	5889.84	1738.851	
49	949	0.135	2	22568	0.03121	7049.25	2321.133	
50	Base							

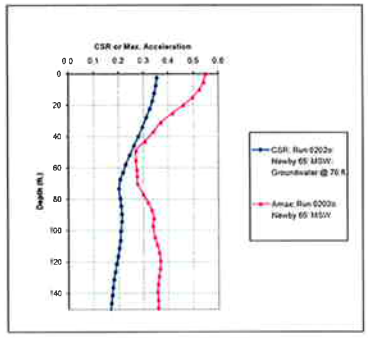
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.54934 Waste (K&M)	Waste (K&M)
5	0.54291 Waste (K&M)	Waste (K&M)
10	0.52458 Waste (K&M)	Waste (K&M)
15	0.49647 Waste (K&M)	Waste (K&M)
20	0.46048 Waste (K&M)	Waste (K&M)
25	0.41758 Waste (K&M)	Waste (K&M)
31	0.36924 Waste (K&M)	Waste (K&M)
37	0.34003 Waste (K&M)	Waste (K&M)
43	0.30652 Waste (K&M)	Waste (K&M)
49	0.27017 Waste (K&M)	Waste (K&M)
55	0.27047 Waste (K&M)	Waste (K&M)
61	0.27411 Clay PI=22	Clay PI=22
65	0.27472 Clay PI=22	Clay PI=22
70	0.27838 Sand Upper	Sand lower
77	0.30088 Clay PI=19	Clay PI=19
82	0.31902 Clay PI=19	Clay PI=19
87	0.33398 Clay PI=19	Clay PI=19
92	0.34077 Clay PI=19	Clay PI=19
97	0.33743 EPRI 51-120'	EPRI 51-120'
104	0.34506 Clay PI=19	Clay PI=19
109	0.35363 Clay PI=19	Clay PI=19
114	0.3625 Clay PI=19	Clay PI=19
119	0.36678 Clay PI=19	Clay PI=19
124	0.36609 Clay PI=19	Clay PI=19
129	0.36221 Clay PI=19	Clay PI=19
134	0.35793 Clay PI=19	Clay PI=19
139	0.35605 Clay PI=19	Clay PI=19
144	0.35777 Clay PI=19	Clay PI=19
149	0.35775 EPRI 51-120'	EPRI 51-120'
154	0.35677 EPRI 51-120'	EPRI 51-120'
159	0.35373 EPRI 51-120'	EPRI 51-120'
164	0.3487 EPRI 51-120'	EPRI 51-120'
169	0.34645 EPRI 121-250	EPRI 121-250
179	0.33532 EPRI 121-250	EPRI 121-250
189	0.33182 EPRI 121-250	EPRI 121-250
199	0.32236 EPRI 121-250	EPRI 121-250
209	0.32035 EPRI 121-250	EPRI 121-250
219	0.32562 EPRI 121-250	EPRI 121-250
229	0.32807 EPRI 121-250	EPRI 121-250
249	0.3351 EPRI 121-250	EPRI 121-250
269	0.34081 EPRI 121-250	EPRI 121-250
289	0.35101 EPRI 251-500	EPRI 251-500
309	0.34026 EPRI 251-500	EPRI 251-500
359	0.33814 EPRI 251-500	EPRI 251-500
419	0.36409 EPRI 251-500	EPRI 251-500
494	0.3483 EPRI501-1000	EPRI501-1000
594	0.3439 EPRI501-1000	EPRI501-1000
714	0.367 EPRI501-1000	EPRI501-1000
849	0.37999 EPRI501-1000	EPRI501-1000
1049	0.33648	

Run 0202o; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.549 g
Amax =	.549 g
CSR Max =	0.355
CSR Min =	0.071

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.355
10	600.0	0.351
15	1,000.0	0.344
20	1,400.0	0.336
25	1,800.0	0.325
31	2,240.0	0.313
37	2,720.0	0.297
43	3,200.0	0.280
49	3,680.0	0.262
55	4,160.0	0.245
61	4,670.0	0.228
65	5,180.0	0.218
70	5,720.0	0.207
77	6,239.1	0.201
82	6,619.7	0.206
87	6,042.7	0.210
92	7,265.7	0.213
97	7,588.7	0.212
104	7,969.3	0.208
109	8,349.9	0.207
114	8,672.9	0.203
119	8,895.9	0.197
124	9,318.9	0.192
129	9,841.9	0.188
134	9,964.9	0.181
139	10,287.9	0.177
144	10,610.9	0.174
149	10,933.9	0.171
154	11,256.9	0.169
159	11,579.9	0.167
164	11,902.9	0.165
169	12,225.9	0.163
179	12,710.4	0.158
189	13,356.4	0.153
199	14,002.4	0.148
209	14,648.4	0.145
219	15,294.4	0.143
229	15,955.4	0.143
249	16,939.4	0.145
269	18,251.4	0.147
289	19,563.4	0.148
309	20,875.4	0.148
359	23,171.4	0.151
419	26,809.4	0.134
494	31,342.4	0.121
594	37,307.4	0.104
714	44,913.4	0.089
849	53,854.9	0.071
1049	65,880.4	0.070





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3.01 sec
Average Shear Wave Velocity for Soil Column: 1411 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

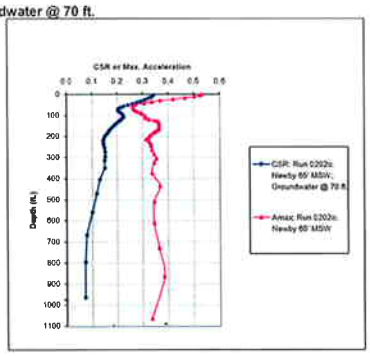
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

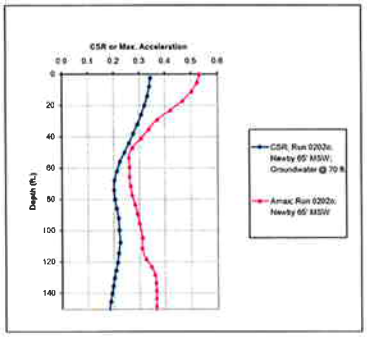
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	7.3	450.1	0.02344	105.51	425.6351	0	0.53136	Waste (K&M)	Waste (K&M)
2	8	0.08	10.2	499.9	0.0671	333.44	447.2161	5	0.52499	Waste (K&M)	Waste (K&M)
3	14	0.08	11.7	549.2	0.10441	570.3	468.6769	11	0.50282	Waste (K&M)	Waste (K&M)
4	20	0.08	12.6	600.3	0.13136	788.56	491.5493	17	0.46715	Waste (K&M)	Waste (K&M)
5	26	0.08	13	662.5	0.14851	983.91	516.3877	23	0.42088	Waste (K&M)	Waste (K&M)
6	32	0.08	13.4	699.3	0.1649	1153.17	530.5358	29	0.36937	Waste (K&M)	Waste (K&M)
7	38	0.08	13.5	772.6	0.16758	1294.71	557.6462	35	0.338	Waste (K&M)	Waste (K&M)
8	44	0.08	13.6	821.7	0.17133	1407.8	575.065	41	0.3063	Waste (K&M)	Waste (K&M)
9	50	0.09	12.9	1044.8	0.14392	1503.85	611.4262	47	0.27298	Waste (K&M)	Waste (K&M)
10	56	0.09	12.9	1112.2	0.14179	1576.84	630.8093	53	0.26005	Waste (K&M)	Waste (K&M)
11	62	0.09	12.8	1180.2	0.14156	1670.78	649.8071	59	0.26202	Waste (K&M)	Waste (K&M)
12	68	0.09	12.8	1250.3	0.14102	1763.2	668.827	65	0.26251	Waste (K&M)	Waste (K&M)
13	74	0.09	12.8	1323.5	0.13936	1844.47	688.1271	71	0.2654	Waste (K&M)	Waste (K&M)
14	80	0.09	12.7	1399.2	0.13758	1924.09	707.5328	77	0.27257	Waste (K&M)	Waste (K&M)
15	86	0.09	12.7	1473.6	0.1386	2042.44	726.1001	83	0.28288	Waste (K&M)	Waste (K&M)
16	92	0.09	12.8	1550	0.13853	2162.86	744.6849	89	0.29316	Waste (K&M)	Waste (K&M)
17	98.5	0.12	11.8	923.4	0.25075	2315.46	497.7741	95	0.30103	Clay PI=22	Clay PI=22
18	107.5	0.127	13.9	656.1	0.36156	2511.32	498.4811	104	0.31126	Clay PI=19	Clay PI=19
19	114.5	0.125	12.4	1062.1	0.24411	2592.82	523.0649	111	0.31635	EPRI 51-120'	EPRI 51-120'
20	120.5	0.127	13.7	750.3	0.35853	2675.18	436.1577	118	0.32527	Clay PI=19	Clay PI=19
21	125.5	0.127	13.1	883.9	0.30251	2704.1	476.0997	123	0.34664	Clay PI=19	Clay PI=19
22	130.5	0.127	13	926.1	0.29508	2732.65	484.5683	128	0.3584	Clay PI=19	Clay PI=19
23	135.5	0.127	13.1	916.6	0.30093	2758.19	482.0765	133	0.36343	Clay PI=19	Clay PI=19
24	140.5	0.127	12.9	995	0.27936	2779.49	502.2704	138	0.36524	Clay PI=19	Clay PI=19
25	145.5	0.127	12.9	983.6	0.2865	2806.02	496.3848	143	0.36551	Clay PI=19	Clay PI=19
26	150.5	0.127	13	971.4	0.29223	2838.84	490.2781	148	0.36451	Clay PI=19	Clay PI=19
27	155.5	0.127	13.1	959.3	0.29905	2868.93	493.1776	153	0.36391	Clay PI=19	Clay PI=19
28	160.5	0.127	11.8	1430.5	0.20155	2883.16	602.2405	158	0.36453	Clay PI=19	Clay PI=19
29	165.5	0.127	11.3	1524.7	0.19073	2907.95	621.7535	163	0.36406	EPRI 51-120'	EPRI 51-120'
30	170.5	0.127	11.4	1506.1	0.1949	2939.31	618.3596	168	0.35974	EPRI 51-120'	EPRI 51-120'
31	175.5	0.127	11.5	1492.2	0.19888	2967.78	615.0913	173	0.3533	EPRI 51-120'	EPRI 51-120'
32	180.5	0.127	11.6	1479.1	0.20236	2993.02	612.3854	178	0.34656	EPRI 51-120'	EPRI 51-120'
33	188	0.127	8.900001	1881.2	0.16121	3000.41	669.948	183	0.34181	EPRI 121-250	EPRI 121-250
34	198	0.127	9	1846.6	0.1648	3043.24	664.2463	193	0.33009	EPRI 121-250	EPRI 121-250
35	208	0.127	9.099999	1828.5	0.16987	3106.16	660.8846	203	0.32377	EPRI 121-250	EPRI 121-250
36	218	0.127	9.3	1801.4	0.17784	3203.49	675.8202	213	0.31297	EPRI 121-250	EPRI 121-250
37	228	0.127	7.6	2613.9	0.11631	3329.15	844.657	223	0.32545	EPRI 121-250	EPRI 121-250
38	238	0.127	7.5	3052.8	0.11627	3518.87	879.7823	233	0.33083	EPRI 121-250	EPRI 121-250
39	253	0.127	8	2916.7	0.13177	3842.02	850.8001	243	0.33234	EPRI 121-250	EPRI 121-250
40	273	0.128	8.4	2805	0.14956	4195.33	840.0195	263	0.3359	EPRI 121-250	EPRI 121-250
41	293	0.128	8.299999	3085.1	0.14539	4485.29	860.0628	283	0.34418	EPRI 121-250	EPRI 121-250
42	313	0.128	3.4	11112.8	0.04287	4741.56	1671.994	303	0.35349	EPRI 251-500	EPRI 251-500
43	348	0.129	6	4806.8	0.11021	5297.61	1095.371	323	0.34509	EPRI 251-500	EPRI 251-500
44	403	0.129	5.7	5485.0	0.09696	5320.25	1170.192	373	0.33661	EPRI 251-500	EPRI 251-500
45	470.5	0.13	5.2	6867.8	0.08256	5670.26	1304.263	433	0.36834	EPRI 251-500	EPRI 251-500
46	558	0.131	3	9563.6	0.0599	5726.37	1533.215	508	0.3451	EPRI501-1000	EPRI501-1000
47	668	0.132	2.5	11064.9	0.04857	5373.98	1642.914	608	0.34422	EPRI501-1000	EPRI501-1000
48	795.5	0.133	2.5	12159	0.0494	6006.25	1715.738	728	0.36357	EPRI501-1000	EPRI501-1000
49	963	0.135	2	22540.1	0.03182	7171.87	2318.87	863	0.38444	EPRI501-1000	EPRI501-1000
50	Base							1063	0.33491		

Run 0202o; Newby 95' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.531 g
Amax =	.531 g
CSR Max =	0.343
CSR Min =	0.073

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.343
11	640.0	0.339
17	1,120.0	0.331
23	1,600.0	0.320
29	2,080.0	0.307
35	2,560.0	0.293
41	3,040.0	0.277
47	3,520.0	0.260
53	4,030.0	0.243
59	4,570.0	0.224
65	5,110.0	0.213
71	5,650.0	0.203
77	5,940.4	0.202
83	6,106.0	0.205
89	6,271.6	0.212
95	6,437.2	0.218
104	6,779.2	0.222
111	7,264.5	0.225
118	7,709.7	0.219
123	8,090.3	0.215
128	8,413.3	0.209
133	8,736.3	0.203
138	9,059.3	0.198
143	9,382.3	0.193
148	9,705.3	0.188
153	10,028.3	0.184
158	10,351.3	0.180
163	10,674.3	0.176
168	10,997.3	0.172
173	11,320.3	0.169
178	11,643.3	0.166
183	11,966.3	0.163
193	12,450.8	0.157
203	13,096.8	0.151
213	13,742.8	0.147
223	14,388.8	0.145
233	15,034.8	0.144
243	15,680.8	0.149
263	16,949.8	0.150
283	17,951.8	0.152
303	19,263.8	0.151
323	20,575.8	0.150
373	22,898.8	0.150
433	26,559.8	0.130
508	31,092.8	0.119
608	37,057.8	0.100
728	44,663.8	0.078
863	53,605.3	0.073
1063	65,630.8	0.071





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.28 sec
Average Shear Wave Velocity for Soil Column: 1364 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

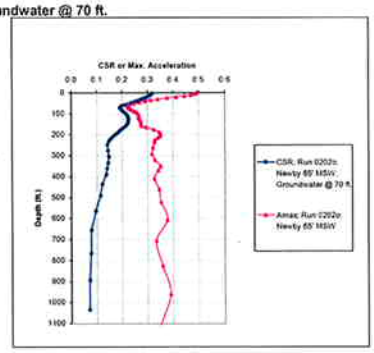
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

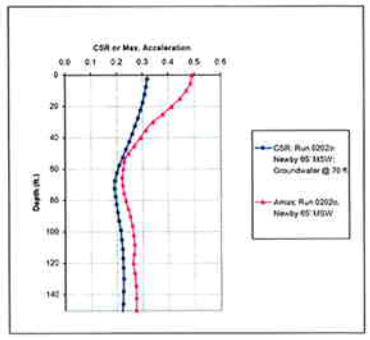
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	7.1	451	0.02166	97.7	428.0605	0	0.49151	Waste (K&M)	Waste (K&M)
2	7.5	0.08	9.9	478.3	0.06051	289.41	438.7662	5	0.48563	Waste (K&M)	Waste (K&M)
3	12.5	0.08	11.1	532.5	0.08891	473.49	462.9502	10	0.46911	Waste (K&M)	Waste (K&M)
4	17.5	0.08	11.9	588.6	0.10999	647.39	486.7356	15	0.44439	Waste (K&M)	Waste (K&M)
5	22.5	0.08	12.5	624.8	0.12936	806.19	501.4798	20	0.41332	Waste (K&M)	Waste (K&M)
6	27.5	0.08	12.7	662.8	0.13779	954.56	528.0644	25	0.37803	Waste (K&M)	Waste (K&M)
7	32.5	0.08	13	737.9	0.14711	1085.47	544.9814	30	0.33662	Waste (K&M)	Waste (K&M)
8	37.5	0.08	13.1	785.9	0.1527	1200.08	562.4278	35	0.3124	Waste (K&M)	Waste (K&M)
9	42.5	0.08	13.2	837	0.15507	1298.02	580.4244	40	0.29155	Waste (K&M)	Waste (K&M)
10	47.5	0.09	12.7	1019.9	0.13593	1386.27	604.0675	45	0.26808	Waste (K&M)	Waste (K&M)
11	52.5	0.09	12.6	1085.9	0.13459	1461.52	623.3064	50	0.24677	Waste (K&M)	Waste (K&M)
12	57.5	0.09	12.7	1117.9	0.13604	1520.75	632.4237	55	0.2292	Waste (K&M)	Waste (K&M)
13	62.5	0.09	12.6	1188.1	0.13308	1581.16	651.9783	60	0.22536	Waste (K&M)	Waste (K&M)
14	67.5	0.09	12.6	1256.3	0.13197	1661.82	671.2299	65	0.22035	Waste (K&M)	Waste (K&M)
15	72.5	0.09	12.5	1333.2	0.13024	1736.38	690.8441	70	0.22298	Waste (K&M)	Waste (K&M)
16	77.5	0.09	12.6	1367.9	0.13214	1807.59	699.5743	76	0.22776	Waste (K&M)	Waste (K&M)
17	82.5	0.09	12.5	1444.7	0.1305	1885.44	718.9448	80	0.23546	Waste (K&M)	Waste (K&M)
18	87.5	0.09	12.6	1479.1	0.13363	1978.57	727.4539	85	0.24397	Waste (K&M)	Waste (K&M)
19	93	0.09	12.6	1557.2	0.13344	2077.98	746.4124	90	0.25184	Waste (K&M)	Waste (K&M)
20	99	0.09	12.8	1637.1	0.1334	2183.63	765.3221	96	0.26038	Waste (K&M)	Waste (K&M)
21	105	0.09	12.8	1720	0.13260	2282.34	784.4602	102	0.26503	Waste (K&M)	Waste (K&M)
22	111	0.09	12.8	1758.6	0.13494	2373.1	793.2137	108	0.26791	Waste (K&M)	Waste (K&M)
23	117	0.09	12.6	1846.3	0.13282	2452.17	812.7516	114	0.26711	Waste (K&M)	Waste (K&M)
24	123	0.09	12.5	1937.2	0.13032	2524.63	832.5185	120	0.26371	Waste (K&M)	Waste (K&M)
25	130	0.09	12.5	1980.2	0.13123	2598.54	841.7075	126	0.26841	Waste (K&M)	Waste (K&M)
26	138	0.09	12.5	2074.9	0.12836	2663.38	861.5991	134	0.27354	Waste (K&M)	Waste (K&M)
27	146	0.09	12.4	2173.3	0.12522	2721.29	881.7927	142	0.275	Waste (K&M)	Waste (K&M)
28	154	0.12	12.2	992.8	0.27912	2771.03	516.1408	150	0.27504	Clay PI=22	Clay PI=22
29	161.5	0.125	14.3	778.4	0.3638	2831.70	447.78	158	0.27732	EPRI 51-120'	EPRI 51-120'
30	170	0.127	13.7	811.6	0.35251	2860.65	453.6251	165	0.29477	Clay PI=19	Clay PI=19
31	180	0.127	13.3	907.8	0.32185	2922.51	479.7568	175	0.32331	Clay PI=19	Clay PI=19
32	190	0.127	13.2	972.3	0.30644	2979.49	496.508	185	0.34486	Clay PI=19	Clay PI=19
33	200	0.127	13.3	961.1	0.31176	2996.4	493.64	195	0.35206	Clay PI=19	Clay PI=19
34	210	0.127	11.6	1492.1	0.19916	2971.63	615.0707	205	0.34890	EPRI 51-120'	EPRI 51-120'
35	220	0.127	11.3	1547.2	0.19202	2970.78	626.3243	215	0.33859	EPRI 51-120'	EPRI 51-120'
36	230	0.127	11.4	1534	0.19591	3005.16	623.6489	225	0.32763	EPRI 51-120'	EPRI 51-120'
37	247.5	0.127	9	1890.7	0.16484	3116.62	662.3687	235	0.32278	EPRI 121-250	EPRI 121-250
38	275	0.127	8.299999	2492.2	0.14258	3553.24	794.9082	280	0.32174	EPRI 121-250	EPRI 121-250
39	305	0.128	8.2	2903.1	0.14168	4113.08	854.5824	290	0.3173	EPRI 121-250	EPRI 121-250
40	335	0.128	8.5	2974.5	0.15102	4492.23	865.0275	320	0.32842	EPRI 121-250	EPRI 121-250
41	360	0.128	3.4	11258.9	0.04161	4684.64	1682.949	350	0.35162	EPRI 251-500	EPRI 251-500
42	390	0.128	5.9	4845.3	0.10314	4997.58	1104.036	370	0.342	EPRI 251-500	EPRI 251-500
43	435	0.129	5.8	5004.8	0.09917	4963.12	1117.703	410	0.32676	EPRI 251-500	EPRI 251-500
44	490	0.129	5	6949.7	0.0767	5330.18	1317.092	460	0.34496	EPRI 251-500	EPRI 251-500
45	562.5	0.13	4.7	7463.7	0.06929	5171.34	1359.67	520	0.35283	EPRI 251-500	EPRI 251-500
46	655	0.131	2.5	10399.1	0.04737	4926.27	1598.785	605	0.37825	EPRI501-1000	EPRI501-1000
47	765	0.132	2.5	11696	0.04008	5740.27	1689.117	705	0.33421	EPRI501-1000	EPRI501-1000
48	892.5	0.133	2.8	12641.2	0.0501	6333.66	1749.429	825	0.35848	EPRI501-1000	EPRI501-1000
49	1035	0.135	2.1	22470.7	0.03289	7390.9	2315.068	960	0.39043	EPRI501-1000	EPRI501-1000
50	Base							1110	0.34928		

Run 0202o; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.492 g
Amax =	.492 g
CSR Max =	0.318
CSR Min =	0.071

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.318
10	600.0	0.314
15	1,000.0	0.308
20	1,400.0	0.301
25	1,800.0	0.292
30	2,200.0	0.282
35	2,600.0	0.271
40	3,000.0	0.260
45	3,400.0	0.248
50	3,825.0	0.236
55	4,275.0	0.222
60	4,725.0	0.209
65	5,175.0	0.199
70	5,625.0	0.192
75	5,919.0	0.191
80	6,057.0	0.194
85	6,195.0	0.198
90	6,333.0	0.203
96	6,484.8	0.208
102	6,650.4	0.213
108	6,816.0	0.218
114	6,981.6	0.221
120	7,147.2	0.223
126	7,312.8	0.224
134	7,506.0	0.225
142	7,726.8	0.224
150	7,947.6	0.223
158	8,268.4	0.217
165	8,737.9	0.211
175	9,280.0	0.200
185	9,926.0	0.191
195	10,572.0	0.183
205	11,218.0	0.174
215	11,864.0	0.163
225	12,510.0	0.154
235	13,156.0	0.148
260	14,286.5	0.142
290	18,063.0	0.144
320	18,918.0	0.148
350	19,984.0	0.146
370	21,624.0	0.141
410	23,592.0	0.138
460	26,589.0	0.121
520	30,232.0	0.115
605	35,103.0	0.096
705	41,406.0	0.077
825	49,012.0	0.076
960	57,953.5	0.071
1110	66,164.0	0.070





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.31 sec
Average Shear Wave Velocity for Soil Column: 1378 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

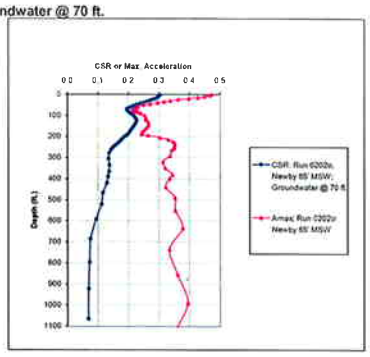
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7	451.5	0.02071	93.49	426.2966	
2	7.5	0.08	9.700001	479.6	0.05788	277.57	439.3821	
3	12.5	0.08	11	533.9	0.08508	454.3	483.5674	
4	17.5	0.08	11.7	591.6	0.10493	620.84	487.9744	
5	22.5	0.08	12.3	628.1	0.12337	774.91	502.8024	
6	27.5	0.08	12.6	666.5	0.1314	915.28	529.4727	
7	32.5	0.08	12.8	742	0.14025	1040.58	546.4934	
8	37.5	0.08	12.9	790.9	0.14546	1150.45	564.2139	
9	42.5	0.08	13	843.2	0.14762	1244.67	582.5702	
10	47.5	0.09	12.5	1025.2	0.1297	1329.75	605.635	
11	52.5	0.09	12.5	1089.8	0.13038	1420.86	624.4247	
12	57.5	0.09	12.5	1156.1	0.13123	1517.12	643.1383	
13	62.5	0.09	12.6	1186.5	0.13526	1604.93	651.5392	
14	67.5	0.09	12.6	1257.6	0.134	1685.23	670.7767	
15	72.5	0.09	12.7	1291	0.13622	1758.59	679.6257	
16	77.5	0.09	12.6	1366.5	0.13382	1828.63	699.2162	
17	82.5	0.09	12.6	1443.5	0.13191	1904.01	718.6461	
18	87.5	0.09	12.6	1477.9	0.13499	1995.06	727.1587	
19	95	0.09	12.7	1552.5	0.13753	2135.19	746.2852	
20	105	0.09	12.7	1672.2	0.13791	2306.12	773.483	
21	115	0.09	12.7	1799.2	0.13631	2452.34	802.3177	
22	125	0.09	12.8	1933.8	0.13284	2568.54	831.7448	
23	135	0.105	11.9	2406.2	0.11069	2663.43	859.0118	
24	145	0.105	11.8	2579.2	0.10668	2751.6	889.3563	
25	155	0.105	11.7	2690.3	0.1048	2825.8	909.3214	
26	165	0.105	11.5	2882.4	0.10033	2891.99	940.1787	
27	175	0.105	11.4	3074.9	0.09821	2958.46	971.0661	
28	184	0.12	12	1133.7	0.26737	3031.12	551.5519	
29	191.5	0.125	13.8	854.4	0.32372	3089.56	495.8361	
30	200	0.127	13.3	979.8	0.3167	3122.65	498.4192	
31	210	0.127	13.1	1052.9	0.30117	3171.2	516.6776	
32	220	0.127	12.8	1175.1	0.27439	3224.44	545.8376	
33	230	0.127	12.9	1162	0.27051	3247.90	542.7806	
34	240	0.127	11.3	1678.3	0.19206	3238.77	652.3203	
35	250	0.127	11.2	1735.7	0.18646	3236.51	663.3816	
36	260	0.127	11.2	1726.2	0.1866	3255.6	661.5637	
37	277.5	0.127	8.7	2127.2	0.15723	3344.74	734.3959	
38	305	0.127	8	2810.5	0.12967	3650.01	844.1496	
39	335	0.128	7.900001	3199	0.13006	4160.64	907.0777	
40	365	0.128	8.2	3273.7	0.13908	4553.18	907.4011	
41	390	0.128	3.3	12104.1	0.03905	4726.45	1744.975	
42	420	0.128	5.6	5242.4	0.09583	5023.92	1148.386	
43	465	0.129	5.6	5293.6	0.09517	5037.92	1149.499	
44	520	0.129	4.9	7304.2	0.07374	5452.67	1368.56	
45	582.5	0.13	4.6	7601.4	0.06758	5270.41	1390.089	
46	685	0.131	2.4	10604.8	0.0455	4916.67	1629.674	
47	795	0.132	2.4	12148.1	0.04647	5644.67	1721.453	
48	922.5	0.133	2.6	12979.3	0.04857	6304.51	1772.669	
49	1065	0.135	2	22501.6	0.03245	7300.86	2316.689	
50	Base							

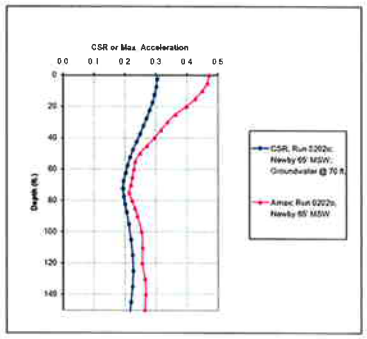
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.47152 Waste (K&M)	Waste (K&M)
5	0.46563 Waste (K&M)	Waste (K&M)
10	0.4498 Waste (K&M)	Waste (K&M)
15	0.4266 Waste (K&M)	Waste (K&M)
20	0.39743 Waste (K&M)	Waste (K&M)
25	0.36269 Waste (K&M)	Waste (K&M)
30	0.33706 Waste (K&M)	Waste (K&M)
35	0.31969 Waste (K&M)	Waste (K&M)
40	0.29527 Waste (K&M)	Waste (K&M)
45	0.27117 Waste (K&M)	Waste (K&M)
50	0.24863 Waste (K&M)	Waste (K&M)
55	0.23249 Waste (K&M)	Waste (K&M)
60	0.22921 Waste (K&M)	Waste (K&M)
65	0.22413 Waste (K&M)	Waste (K&M)
70	0.21923 Waste (K&M)	Waste (K&M)
75	0.2133 Waste (K&M)	Waste (K&M)
80	0.22255 Waste (K&M)	Waste (K&M)
85	0.2321 Waste (K&M)	Waste (K&M)
90	0.24049 Waste (K&M)	Waste (K&M)
100	0.25321 Waste (K&M)	Waste (K&M)
110	0.25694 Waste (K&M)	Waste (K&M)
120	0.25533 Waste (K&M)	Waste (K&M)
130	0.25497 Waste (K&M)	Waste (K&M)
140	0.25694 Waste (K&M)	Waste (K&M)
150	0.25379 Waste (K&M)	Waste (K&M)
160	0.25836 Waste (K&M)	Waste (K&M)
170	0.25109 Waste (K&M)	Waste (K&M)
180	0.24358 Clay PI=22	Clay PI=22
188	0.24223 EPRI 51-120'	EPRI 51-120'
195	0.26402 Clay PI=19	Clay PI=19
205	0.3021 Clay PI=19	Clay PI=19
215	0.33051 Clay PI=19	Clay PI=19
225	0.34633 Clay PI=19	Clay PI=19
235	0.35233 EPRI 51-120'	EPRI 51-120'
245	0.35037 EPRI 51-120'	EPRI 51-120'
255	0.35035 EPRI 51-120'	EPRI 51-120'
265	0.341 EPRI 121-250	EPRI 121-250
290	0.33882 EPRI 121-250	EPRI 121-250
320	0.31243 EPRI 121-250	EPRI 121-250
350	0.32079 EPRI 121-250	EPRI 121-250
380	0.34443 EPRI 251-500	EPRI 251-500
400	0.33495 EPRI 251-500	EPRI 251-500
440	0.32248 EPRI 251-500	EPRI 251-500
490	0.35278 EPRI 251-500	EPRI 251-500
550	0.35375 EPRI 251-500	EPRI 251-500
635	0.37781 EPRI501-1000	EPRI501-1000
735	0.33461 EPRI501-1000	EPRI501-1000
855	0.36078 EPRI501-1000	EPRI501-1000
990	0.36289 EPRI501-1000	EPRI501-1000
1140	0.34811	

Run 0202o; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.472 g
Amax =	.472 g
CSR Max =	0.304
CSR Min =	0.069

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.304
10	600.0	0.301
15	1,000.0	0.295
20	1,400.0	0.288
25	1,800.0	0.280
30	2,200.0	0.270
35	2,600.0	0.260
40	3,000.0	0.249
45	3,400.0	0.238
50	3,825.0	0.226
55	4,275.0	0.216
60	4,725.0	0.209
65	5,175.0	0.202
70	5,625.0	0.195
75	5,910.0	0.193
80	6,057.0	0.196
85	6,195.0	0.200
90	6,333.0	0.205
100	6,540.0	0.212
110	6,818.0	0.220
120	7,092.0	0.225
130	7,368.0	0.227
140	7,716.0	0.224
150	8,145.0	0.220
160	8,571.0	0.214
170	8,997.0	0.209
180	9,423.0	0.204
188	9,866.4	0.200
195	10,315.9	0.195
205	10,858.0	0.187
215	11,504.0	0.179
225	12,150.0	0.173
235	12,796.0	0.165
245	13,442.0	0.157
255	14,088.0	0.149
265	14,734.0	0.144
290	15,884.5	0.137
320	17,641.0	0.134
350	19,594.0	0.138
380	21,562.0	0.137
400	23,202.0	0.132
440	25,170.0	0.130
490	28,147.0	0.116
550	31,810.0	0.111
635	36,681.0	0.093
735	42,984.0	0.074
855	50,590.0	0.073
990	59,531.5	0.069
1140	69,742.0	0.068





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.41 sec
Average Shear Wave Velocity for Soil Column: 1383 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

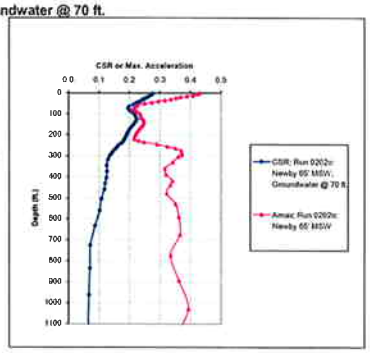
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.7	452.5	0.01876	84.9	426.7684	
2	7.5	0.08	9.4	482.3	0.05225	252	440.597	
3	12.5	0.08	10.6	537	0.07681	412.47	464.9113	
4	17.5	0.08	11.3	598.2	0.09426	563.87	490.6868	
5	22.5	0.08	11.9	635.2	0.11114	705.96	505.5363	
6	27.5	0.08	12.2	703.7	0.11978	842.9	532.2623	
7	32.5	0.08	12.5	748.6	0.12969	970.83	548.9185	
8	37.5	0.08	12.7	796.5	0.13679	1089.47	566.2078	
9	42.5	0.09	12.4	966	0.12512	1208.67	587.8889	
10	47.5	0.09	12.5	1026	0.12915	1325.05	605.8713	
11	55	0.09	12.7	1064.6	0.13663	1481.85	622.9332	
12	65	0.09	12.8	1182	0.14037	1689.22	650.3025	
13	75	0.09	12.7	1327.6	0.13602	1905.78	689.1921	
14	85	0.09	12.7	1439.2	0.13574	1953.49	717.5749	
15	95	0.09	12.7	1553.1	0.13722	2131.22	745.4292	
16	105	0.09	12.7	1673.2	0.13727	2296.79	773.7142	
17	115	0.09	12.6	1800.6	0.13543	2438.53	802.6298	
18	125	0.09	12.5	1935.6	0.13178	2550.82	832.1746	
19	135	0.105	11.9	2406.8	0.10962	2640.49	859.4758	
20	145	0.105	11.7	2582.8	0.10534	2720.8	889.8788	
21	155	0.105	11.6	2700.8	0.10318	2786.6	910.0706	
22	165	0.105	11.5	2888	0.0985	2844.73	941.0916	
23	175	0.105	11.3	3081.7	0.0942	2902.9	972.1362	
24	185	0.105	11.2	3211.4	0.09238	2966.84	992.3857	
25	195	0.105	11.2	3341.7	0.09087	3030.48	1012.318	
26	205	0.105	11.1	3542.4	0.08779	3109.78	1042.274	
27	215	0.105	11	3677.6	0.08662	3185.43	1061.978	
28	224	0.12	11.8	1298.4	0.25102	3259.14	590.2579	
29	231.5	0.125	13.5	1068.4	0.31	3311.93	524.614	
30	240	0.127	13.2	1053.1	0.31654	3322.88	516.7267	
31	250	0.127	12.9	1188.2	0.2806	3334.21	548.8717	
32	260	0.127	12.7	1274.2	0.26448	3369.89	568.3879	
33	270	0.127	12.7	1261.3	0.26676	3402.59	565.5035	
34	280	0.127	11	1857.4	0.18344	3407.26	686.2444	
35	290	0.127	11.1	1846.4	0.18501	3416.17	684.2093	
36	300	0.127	11.2	1833.2	0.18726	3432.58	681.7592	
37	317.5	0.127	8.7	2259.8	0.15516	3506.3	756.9393	
38	345	0.127	8	2914.9	0.12825	3738.26	859.8821	
39	375	0.128	7.7	3442.6	0.12062	4152.56	930.8068	
40	405	0.128	7.900001	3464.5	0.12937	4481.97	933.5621	
41	430	0.128	3.2	12746.7	0.03625	4620.83	1790.896	
42	460	0.128	5.4	5607.2	0.08755	4908.89	1187.671	
43	505	0.129	5.4	5943	0.08823	4978.06	1196.829	
44	560	0.129	4.7	7721.3	0.06876	5309.15	1388.284	
45	632.5	0.13	4.4	8141.6	0.06314	5140.94	1420.075	
46	725	0.131	2.4	11000.8	0.044	4880.36	1651.101	
47	835	0.132	2.4	12295.4	0.04574	5624.28	1731.858	
48	982.5	0.133	2.5	13273.5	0.04777	6341.37	1782.647	
49	1105	0.135	2	22543.5	0.0318	7169.74	2318.845	
50	Base							

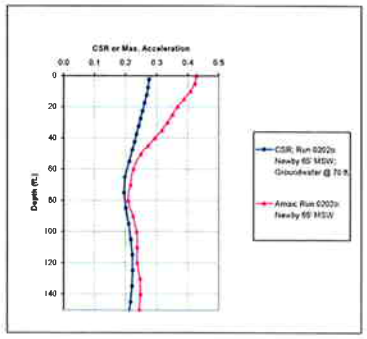
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.42841 Waste (K&M)	Waste (K&M)
5	0.42316 Waste (K&M)	Waste (K&M)
10	0.4087 Waste (K&M)	Waste (K&M)
15	0.38812 Waste (K&M)	Waste (K&M)
20	0.3678 Waste (K&M)	Waste (K&M)
25	0.35209 Waste (K&M)	Waste (K&M)
30	0.33587 Waste (K&M)	Waste (K&M)
35	0.31839 Waste (K&M)	Waste (K&M)
40	0.29396 Waste (K&M)	Waste (K&M)
45	0.27308 Waste (K&M)	Waste (K&M)
50	0.25037 Waste (K&M)	Waste (K&M)
60	0.2254 Waste (K&M)	Waste (K&M)
70	0.2163 Waste (K&M)	Waste (K&M)
80	0.20816 Waste (K&M)	Waste (K&M)
90	0.22417 Waste (K&M)	Waste (K&M)
100	0.23537 Waste (K&M)	Waste (K&M)
110	0.23723 Waste (K&M)	Waste (K&M)
120	0.23816 Waste (K&M)	Waste (K&M)
130	0.24673 Waste (K&M)	Waste (K&M)
140	0.24773 Waste (K&M)	Waste (K&M)
150	0.24489 Waste (K&M)	Waste (K&M)
160	0.23913 Waste (K&M)	Waste (K&M)
170	0.23357 Waste (K&M)	Waste (K&M)
180	0.22763 Waste (K&M)	Waste (K&M)
190	0.22241 Waste (K&M)	Waste (K&M)
200	0.21849 Waste (K&M)	Waste (K&M)
210	0.21581 Waste (K&M)	Waste (K&M)
220	0.21562 Clay PI=22	Clay PI=22
228	0.22896 EPRI 51-120'	EPRI 51-120'
235	0.24841 Clay PI=19	Clay PI=19
245	0.28053 Clay PI=19	Clay PI=19
255	0.32419 Clay PI=19	Clay PI=19
265	0.35127 Clay PI=19	Clay PI=19
275	0.36676 EPRI 51-120'	EPRI 51-120'
285	0.37123 EPRI 51-120'	EPRI 51-120'
295	0.37204 EPRI 51-120'	EPRI 51-120'
305	0.35961 EPRI 121-250	EPRI 121-250
330	0.34231 EPRI 121-250	EPRI 121-250
360	0.31542 EPRI 121-250	EPRI 121-250
390	0.3188 EPRI 121-250	EPRI 121-250
420	0.3415 EPRI 251-500	EPRI 251-500
440	0.33363 EPRI 251-500	EPRI 251-500
480	0.32243 EPRI 251-500	EPRI 251-500
530	0.35143 EPRI 251-500	EPRI 251-500
590	0.36187 EPRI 251-500	EPRI 251-500
675	0.36627 EPRI501-1000	EPRI501-1000
775	0.33452 EPRI501-1000	EPRI501-1000
895	0.36222 EPRI501-1000	EPRI501-1000
1030	0.39265 EPRI501-1000	EPRI501-1000
1180	0.34561	

Run 0202o; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.428 g
Amax =	.428 g
CSR Max =	0.276
CSR Min =	0.067

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.276
10	600.0	0.273
15	1,000.0	0.268
20	1,400.0	0.262
25	1,800.0	0.255
30	2,200.0	0.249
35	2,600.0	0.243
40	3,000.0	0.236
45	3,425.0	0.229
50	3,875.0	0.222
60	4,550.0	0.212
70	5,450.0	0.198
80	6,038.0	0.194
90	6,314.0	0.201
100	6,590.0	0.210
110	6,866.0	0.217
120	7,142.0	0.222
130	7,418.0	0.224
140	7,769.0	0.221
150	8,195.0	0.216
160	8,621.0	0.210
170	9,047.0	0.204
180	9,473.0	0.199
190	9,899.0	0.195
200	10,325.0	0.191
210	10,751.0	0.188
220	11,177.0	0.185
228	11,620.4	0.182
235	12,099.0	0.178
245	12,812.0	0.171
255	13,258.0	0.163
265	13,904.0	0.158
275	14,550.0	0.152
285	15,196.0	0.146
295	15,842.0	0.140
305	16,488.0	0.135
330	17,818.5	0.129
360	19,395.0	0.125
390	21,348.0	0.126
420	23,316.0	0.125
440	24,956.0	0.120
480	26,924.0	0.119
530	29,901.0	0.108
590	33,564.0	0.103
675	38,435.0	0.087
775	44,738.0	0.071
895	52,344.0	0.070
1030	61,285.5	0.067
1180	71,496.0	0.065





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.57 sec
Average Shear Wave Velocity for Soil Column: 1383 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\H_SHP270_61.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

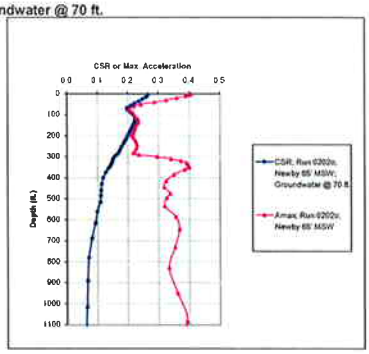
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)
1	2.5	0.08	8.6	453	0.01901	81.58	427.0041
2	7.5	0.08	9.2	463.4	0.05046	243.92	441.0992
3	15	0.08	11	556.3	0.08506	478.16	473.1921
4	25	0.08	12.2	629.7	0.12131	763.89	503.4424
5	35	0.08	12.7	745	0.13606	1013.57	547.597
6	45	0.08	12.9	845	0.14551	1229.63	583.1917
7	55	0.08	13	955.9	0.148	1414.8	620.282
8	65	0.08	13	1042.8	0.15077	1572.25	647.8635
9	75	0.08	12.9	1170.8	0.14962	1718.58	686.4744
10	85	0.09	12.5	1446.7	0.12958	1874.56	719.4422
11	95	0.09	12.5	1561.7	0.13067	2040.68	747.4902
12	105	0.09	12.5	1683.5	0.12995	2187.71	776.092
13	115	0.09	12.4	1812.8	0.12746	2310.36	805.3444
14	125	0.09	12.3	1949.6	0.12339	2405.55	835.1788
15	135	0.09	12.2	2042.6	0.12158	2483.38	854.6666
16	145	0.09	12.1	2192.2	0.11586	2539.81	885.8187
17	155	0.09	12	2294	0.11277	2586.97	905.9482
18	165	0.09	11.8	2454.1	0.10725	2632.17	937.0285
19	175	0.09	11.6	2619.3	0.1024	2682.31	968.0533
20	185	0.105	10.9	3226.6	0.08486	2739.9	995.0397
21	195	0.105	10.9	3357.1	0.08396	2818.78	1014.848
22	205	0.105	10.8	3557.7	0.0815	2899.43	1044.523
23	215	0.105	10.8	3692.9	0.08068	2979.35	1064.185
24	225	0.105	10.7	3831.1	0.07995	3051.45	1083.915
25	237.5	0.105	10.6	4045.9	0.07732	3129.38	1113.886
26	252.5	0.105	10.5	4296.5	0.07516	3206.67	1143.85
27	267.5	0.105	10.4	4494	0.07287	3274.99	1173.951
28	279	0.12	11.4	1526.3	0.21846	3334.32	639.9666
29	286.5	0.125	13.3	1153	0.29164	3362.77	544.9888
30	295	0.127	13	1136.4	0.29602	3383.99	536.7743
31	305	0.127	12.7	1267.5	0.2681	3398.22	566.8617
32	315	0.127	12.6	1335.1	0.26169	3406.54	581.8124
33	325	0.127	12.8	1300	0.27645	3593.83	574.1135
34	335	0.127	11.4	1872	0.19544	3658.51	688.9362
35	345	0.127	11.6	1849.7	0.19942	3688.56	684.8204
36	355	0.127	11.8	1839.3	0.20081	3693.48	682.8925
37	372.5	0.127	8.600001	2312.1	0.15981	3695.01	765.6484
38	400	0.127	7.8	3056.4	0.12234	3736.09	880.3009
39	430	0.128	7.4	3608	0.10937	3946.11	952.7001
40	460	0.128	7.5	3751.4	0.11296	4233.65	971.4482
41	485	0.128	3.1	13141.5	0.03381	4442.94	1818.216
42	515	0.128	5.2	5791.2	0.08203	4750.49	1207
43	560	0.129	5.1	5857	0.08112	4761.4	1209.124
44	615	0.129	4.3	8044.8	0.06169	4962.96	1417.051
45	687.5	0.13	4.2	8388.3	0.05917	4963.1	1441.429
46	780	0.131	2.4	11198.8	0.0447	5006.02	1659.106
47	890	0.132	2.4	12469.3	0.04491	5589.7	1742.453
48	1017.5	0.133	2.5	13424.8	0.04732	6352.94	1802.822
49	1160	0.135	2	22604.6	0.03092	6990.15	2321.985
50	Base						

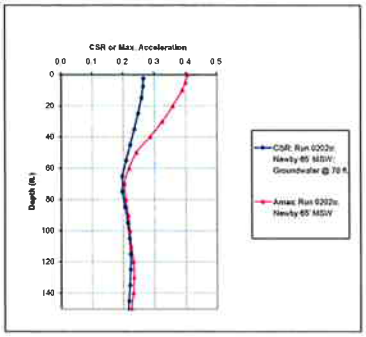
Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.40394	Waste (K&M)	Waste (K&M)
5	0.3996	Waste (K&M)	Waste (K&M)
10	0.38859	Waste (K&M)	Waste (K&M)
20	0.35905	Waste (K&M)	Waste (K&M)
30	0.32551	Waste (K&M)	Waste (K&M)
40	0.28733	Waste (K&M)	Waste (K&M)
50	0.2427	Waste (K&M)	Waste (K&M)
60	0.21934	Waste (K&M)	Waste (K&M)
70	0.20361	Waste (K&M)	Waste (K&M)
80	0.20763	Waste (K&M)	Waste (K&M)
90	0.21624	Waste (K&M)	Waste (K&M)
100	0.22119	Waste (K&M)	Waste (K&M)
110	0.22487	Waste (K&M)	Waste (K&M)
120	0.23278	Waste (K&M)	Waste (K&M)
130	0.23503	Waste (K&M)	Waste (K&M)
140	0.23246	Waste (K&M)	Waste (K&M)
150	0.22834	Waste (K&M)	Waste (K&M)
160	0.22375	Waste (K&M)	Waste (K&M)
170	0.22172	Waste (K&M)	Waste (K&M)
180	0.21913	Waste (K&M)	Waste (K&M)
190	0.21623	Waste (K&M)	Waste (K&M)
200	0.21214	Waste (K&M)	Waste (K&M)
210	0.21822	Waste (K&M)	Waste (K&M)
220	0.22386	Waste (K&M)	Waste (K&M)
230	0.22768	Waste (K&M)	Waste (K&M)
245	0.22999	Waste (K&M)	Waste (K&M)
260	0.22762	Waste (K&M)	Waste (K&M)
275	0.22145	Clay PI=22	Clay PI=22
283	0.21799	EPRI 51-120'	EPRI 51-120'
290	0.23617	Clay PI=19	Clay PI=19
300	0.29566	Clay PI=19	Clay PI=19
310	0.34034	Clay PI=19	Clay PI=19
320	0.37198	Clay PI=19	Clay PI=19
330	0.39099	EPRI 51-120'	EPRI 51-120'
340	0.39636	EPRI 51-120'	EPRI 51-120'
350	0.39633	EPRI 51-120'	EPRI 51-120'
360	0.36522	EPRI 121-250	EPRI 121-250
365	0.34967	EPRI 121-250	EPRI 121-250
415	0.32449	EPRI 121-250	EPRI 121-250
445	0.31817	EPRI 121-250	EPRI 121-250
475	0.33778	EPRI 251-500	EPRI 251-500
495	0.3264	EPRI 251-500	EPRI 251-500
535	0.31992	EPRI 251-500	EPRI 251-500
585	0.35625	EPRI 251-500	EPRI 251-500
645	0.36781	EPRI 251-500	EPRI 251-500
730	0.35332	EPRI501-1000	EPRI501-1000
830	0.33348	EPRI501-1000	EPRI501-1000
950	0.3818	EPRI501-1000	EPRI501-1000
1085	0.39234	EPRI501-1000	EPRI501-1000
1235	0.34442		

Run 0202c; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.404 g
Amax =	.404 g
CSR Max =	0.265
CSR Min =	0.066

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.265
10	600.0	0.264
20	1,200.0	0.259
30	2,000.0	0.248
40	2,800.0	0.235
50	3,600.0	0.222
60	4,400.0	0.209
70	5,200.0	0.197
80	5,888.0	0.196
90	5,914.0	0.206
100	6,190.0	0.214
110	6,466.0	0.220
120	6,742.0	0.223
130	7,018.0	0.223
140	7,294.0	0.221
150	7,570.0	0.218
160	7,846.0	0.214
170	8,122.0	0.211
180	8,398.0	0.208
190	8,749.0	0.204
200	9,175.0	0.200
210	9,601.0	0.196
220	10,027.0	0.193
230	10,453.0	0.190
245	10,985.5	0.185
260	11,824.5	0.179
275	12,263.5	0.174
283	12,813.4	0.169
290	13,262.9	0.165
300	13,805.0	0.158
310	14,451.0	0.153
320	15,097.0	0.151
330	15,743.0	0.148
340	16,389.0	0.145
350	17,035.0	0.141
360	17,681.0	0.139
365	18,811.5	0.128
415	20,688.0	0.118
445	22,541.0	0.114
475	24,509.0	0.112
495	26,149.0	0.110
535	28,117.0	0.110
585	31,094.0	0.099
645	34,757.0	0.093
730	39,828.0	0.081
830	45,931.0	0.071
950	53,537.0	0.068
1085	62,478.5	0.066
1235	72,680.0	0.063





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike = .225 g

Max EQ PGA for All Soil Profiles = .244 g
Min EQ PGA for All Soil Profiles = .173 g

U. Wt. of Water = 62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.6 sec
Average Shear Wave Velocity for Soil Column: 1547 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

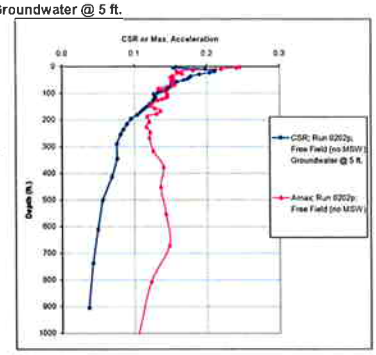
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

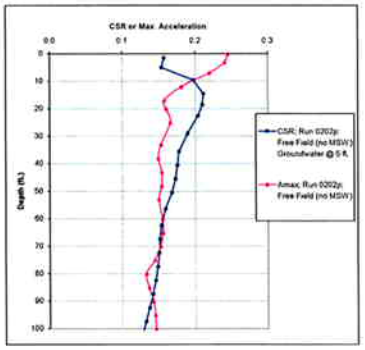
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	2.5	653.2	0.00628	41.01	431.4315	0	0.24446	Clay PI=30	Clay PI=30
2	5	0.113	4.5	576.8	0.02318	133.69	405.4164	3	0.23982	Clay PI=30	Clay PI=30
3	9.5	0.113	6.9	504.6	0.04763	240.31	379.1948	7	0.21879	Clay PI=30	Clay PI=30
4	14.5	0.113	6.4	555.7	0.06106	339.34	397.9321	12	0.18029	Clay PI=30	Clay PI=30
5	18.5	0.12	7.1	624.9	0.06503	406.36	409.4893	17	0.15717		
6	22.5	0.113	6	930.6	0.04956	461.15	514.9581	20	0.15968	Clay PI=30	Clay PI=30
7	29	0.125	4.1	1822.9	0.02954	538.51	885.2584	25	0.16545	Sand Upper	Sand lower
8	35.5	0.127	7.2	1278.7	0.0482	616.31	599.3907	33	0.1626	Clay PI=19	Clay PI=19
9	40.5	0.127	7.4	1363.4	0.05103	695.72	587.9464	38	0.14909	Clay PI=19	Clay PI=19
10	45.5	0.127	7.7	1349.9	0.05729	771.62	584.3779	43	0.15378	Clay PI=19	Clay PI=19
11	50.5	0.127	7.6	1513	0.05507	833.18	619.3634	48	0.15368	Clay PI=19	Clay PI=19
12	58.5	0.125	5.4	1637.3	0.04552	881.82	706.4337	53	0.14981	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	8.1	1442	0.06532	941.89	604.6585	60	0.15467	Clay PI=19	Clay PI=19
14	67.5	0.127	7.000001	1620.8	0.06185	1002.41	641.0463	65	0.15543	Clay PI=19	Clay PI=19
15	72.5	0.127	6.1	1634.4	0.06561	1072.36	643.7322	70	0.15198	Clay PI=19	Clay PI=19
16	77.5	0.127	8.299999	1596.6	0.07078	1131.42	638.643	75	0.14399	Clay PI=19	Clay PI=19
17	82.5	0.127	8.2	1708.5	0.06906	1179.9	656.1631	80	0.13223	Clay PI=19	Clay PI=19
18	87.5	0.127	8.4	1685.3	0.07231	1218.8	653.6793	85	0.1359	Clay PI=19	Clay PI=19
19	92.5	0.127	8.5	1668	0.07478	1247.38	650.3155	90	0.14209	Clay PI=19	Clay PI=19
20	97.5	0.127	8.5	1656.2	0.07649	1266.76	648.0111	95	0.14469	Clay PI=19	Clay PI=19
21	102.5	0.127	7.7	2223.9	0.05762	1281.41	750.9028	100	0.1463	Clay PI=19	Clay PI=19
22	107.5	0.127	6.1	2421.7	0.05598	1355.56	783.5652	105	0.14471	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	6.3	2370.4	0.06007	1423.98	775.2413	110	0.14522	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	6.6	2326.5	0.06378	1483.97	768.029	115	0.14233	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	6.8	2287.5	0.0671	1535.01	761.5644	120	0.13721	EPRI 51-120'	EPRI 51-120'
26	130	0.127	5.3	2554.2	0.06258	1606.01	804.7361	125	0.13141	EPRI 121-250	EPRI 121-250
27	140	0.127	5.5	2505.9	0.06667	1678.09	797.0911	135	0.12385	EPRI 121-250	EPRI 121-250
28	150	0.127	5.7	2469.8	0.07019	1733.51	791.2968	145	0.12161	EPRI 121-250	EPRI 121-250
29	160	0.127	5.8	2440.8	0.07285	1778.04	786.637	155	0.12763	EPRI 121-250	EPRI 121-250
30	170	0.127	4.5	3635.7	0.05024	1826.52	960.108	165	0.13572	EPRI 121-250	EPRI 121-250
31	180	0.127	4.3	3951.2	0.04887	1851.78	1000.9	175	0.12969	EPRI 121-250	EPRI 121-250
32	195	0.127	4.3	3965.4	0.04847	1937.99	1001.432	185	0.1171	EPRI 121-250	EPRI 121-250
33	215	0.128	4.3	3964.9	0.04822	1911.82	998.7092	205	0.12049	EPRI 121-250	EPRI 121-250
34	235	0.128	4.2	4367.3	0.04518	1973.11	1048.165	225	0.11629	EPRI 121-250	EPRI 121-250
35	255	0.128	2	12532.9	0.01631	2043.71	1775.815	245	0.12187	EPRI 251-500	EPRI 251-500
36	290	0.128	3.1	8095.6	0.03576	2180.06	1238.315	285	0.12033	EPRI 251-500	EPRI 251-500
37	345	0.129	3.3	8731.3	0.0391	2631.82	1296.231	315	0.12578	EPRI 251-500	EPRI 251-500
38	412.5	0.13	3.1	8158.8	0.03507	2801.45	1421.574	375	0.13977	EPRI 251-500	EPRI 251-500
39	500	0.131	1.8	10613.5	0.02678	2815.98	1607.555	450	0.13557	EPRI501-1000	EPRI501-1000
40	610	0.132	1.8	11698.6	0.02613	3053.68	1688.582	550	0.14277	EPRI501-1000	EPRI501-1000
41	737.5	0.133	1.7	13001.9	0.02464	3203.77	1774.212	670	0.14764	EPRI501-1000	EPRI501-1000
42	905	0.135	1.2	24164.3	0.01435	3467.77	2400.757	805	0.1225	EPRI501-1000	EPRI501-1000
43	Base							1005	0.10509		

Run 0202p; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth =	5.0 ft.
PGA =	.244 g
Amax =	.244 g
CSR Max =	0.211
CSR Min =	0.037

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	169.5	0.157
7	565.0	0.154
12	792.7	0.197
17	1,045.7	0.211
20	1,258.6	0.210
25	1,471.5	0.204
33	1,846.4	0.189
38	2,250.3	0.177
43	2,583.3	0.175
48	2,906.3	0.173
53	3,229.3	0.168
60	3,609.9	0.159
65	3,990.5	0.153
70	4,313.5	0.151
75	4,636.5	0.150
80	4,959.5	0.148
85	5,282.5	0.145
90	5,605.5	0.141
95	5,928.5	0.137
100	6,251.5	0.132
105	6,574.5	0.127
110	6,897.5	0.128
115	7,220.5	0.128
120	7,543.5	0.128
125	7,866.5	0.127
135	8,351.0	0.125
145	8,997.0	0.121
155	9,643.0	0.117
165	10,289.0	0.112
175	10,935.0	0.109
185	11,581.0	0.104
205	12,550.0	0.096
225	13,852.0	0.090
245	15,154.0	0.085
285	18,476.0	0.081
315	18,772.0	0.075
375	22,410.0	0.076
450	28,943.0	0.069
550	32,908.0	0.056
670	40,514.0	0.049
805	49,455.5	0.042
1005	61,481.0	0.037





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.64 sec
Average Shear Wave Velocity for Soil Column: 1535 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

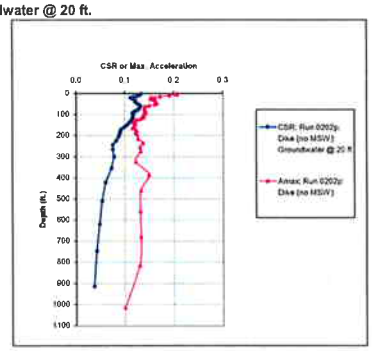
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

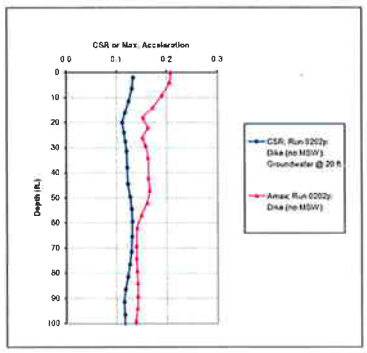
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	1.8	1791	0.00275	49.24	693.2424	0	0.20642	Clay PI=22	Clay PI=22
2	6.5	0.12	5.4	589.8	0.02861	156.96	397.8228	4	0.20517	Clay PI=22	Clay PI=22
3	11.5	0.12	7.1	503.5	0.05208	265.27	367.5675	9	0.19016	Clay PI=22	Clay PI=22
4	16	0.113	6.9	450.2	0.0764	343.98	358.1719	14	0.17171	Clay PI=30	Clay PI=30
5	20	0.113	7.5	420.6	0.09545	404.34	347.4295	18	0.15268	Clay PI=30	Clay PI=30
6	24	0.113	6.9	570.8	0.07811	452.76	406.3993	22	0.16108	Clay PI=30	Clay PI=30
7	27.5	0.12	8.2	556.3	0.08668	498.88	389.3597	26	0.15134		
8	31.5	0.113	6.4	884	0.06207	548.75	501.8973	29	0.157	Clay PI=30	Clay PI=30
9	38	0.125	4.5	1739.9	0.03578	622.51	669.4781	34	0.16181	Sand Upper	Sand lower
10	44.5	0.127	7.8	1215.5	0.05825	706.05	555.1413	42	0.16247	Clay PI=19	Clay PI=19
11	49.5	0.127	8.2	1161.8	0.06847	795.54	542.7399	47	0.16515	Clay PI=19	Clay PI=19
12	54.5	0.127	8.6	1112.9	0.0793	882.58	531.1952	52	0.16026	Clay PI=19	Clay PI=19
13	59.5	0.127	8.5	1236.2	0.07745	957.48	566.8484	57	0.14946	Clay PI=19	Clay PI=19
14	66.5	0.125	6.1	1823.6	0.05643	1029.08	685.39	62	0.14042	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	8.7	1355.2	0.06656	1091.78	586.1767	69	0.13949	Clay PI=19	Clay PI=19
16	76.5	0.127	8.4	1543.8	0.07315	1129.27	625.6358	74	0.13916	Clay PI=19	Clay PI=19
17	81.5	0.127	8.4	1582	0.07301	1155.05	633.3289	79	0.14025	Clay PI=19	Clay PI=19
18	86.5	0.127	8.4	1572.3	0.07444	1170.47	631.3843	84	0.14196	Clay PI=19	Clay PI=19
19	91.5	0.127	8.299999	1696.3	0.07062	1201.34	655.8091	89	0.14204	Clay PI=19	Clay PI=19
20	96.5	0.127	8.5	1659.7	0.07648	1269.37	648.6955	94	0.14142	Clay PI=19	Clay PI=19
21	101.5	0.127	8.7	1622.7	0.08213	1332.79	641.424	99	0.13806	Clay PI=19	Clay PI=19
22	106.5	0.127	8.900001	1585.2	0.08772	1390.48	633.9661	104	0.13676	Clay PI=19	Clay PI=19
23	111.5	0.127	8.2	2128.3	0.0679	1445.11	734.5858	109	0.13831	Clay PI=19	Clay PI=19
24	116.5	0.127	8.7	2308.6	0.06493	1498.98	765.0667	114	0.13659	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	8.8	2276.5	0.06769	1541.06	759.7311	119	0.13146	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	7	2250.8	0.06998	1575.23	755.4305	124	0.12506	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	7.1	2231.7	0.07172	1600.65	752.2184	129	0.11957	EPRI 51-120'	EPRI 51-120'
28	139	0.127	5.4	2522.9	0.06507	1641.76	799.7902	134	0.11704	EPRI 121-250	EPRI 121-250
29	149	0.127	5.5	2502.8	0.06671	1666.73	796.5979	144	0.12137	EPRI 121-250	EPRI 121-250
30	159	0.127	5.6	2492.2	0.06748	1681.7	794.9092	154	0.1182	EPRI 121-250	EPRI 121-250
31	169	0.127	5.6	2495.8	0.06694	1670.88	795.4831	164	0.11456	EPRI 121-250	EPRI 121-250
32	179	0.127	4.3	3697.8	0.04603	1735.43	988.2729	174	0.12331	EPRI 121-250	EPRI 121-250
33	189	0.127	4.2	3980.8	0.04518	1798.63	1004.642	184	0.12146	EPRI 121-250	EPRI 121-250
34	204	0.127	4.3	3944	0.04753	1874.47	999.9874	194	0.12448	EPRI 121-250	EPRI 121-250
35	224	0.128	4.4	3940.1	0.04917	1937.14	995.5809	214	0.12635	EPRI 121-250	EPRI 121-250
36	244	0.128	4.2	4384.2	0.04399	1928.83	1050.101	234	0.13717	EPRI 121-250	EPRI 121-250
37	264	0.128	2	12520.5	0.01654	2070.99	1774.736	254	0.13078	EPRI 251-500	EPRI 251-500
38	299	0.128	3.3	5988	0.04041	2419.88	1227.337	274	0.13173	EPRI 251-500	EPRI 251-500
39	354	0.129	3.3	6713.9	0.03966	2663.02	1294.555	324	0.12223	EPRI 251-500	EPRI 251-500
40	421.5	0.13	3	8266.4	0.03188	2635.98	1431.09	384	0.14896	EPRI 251-500	EPRI 251-500
41	509	0.131	1.8	10522.7	0.02654	2792.67	1606.259	459	0.13234	EPRI501-1000	EPRI501-1000
42	619	0.132	1.8	11680.7	0.0253	3071.66	1688.012	559	0.13119	EPRI501-1000	EPRI501-1000
43	746.5	0.133	1.8	12966.2	0.02539	3292.36	1771.775	679	0.13263	EPRI501-1000	EPRI501-1000
44	914	0.135	1.2	24144.1	0.01499	3546.96	2399.753	814	0.12659	EPRI501-1000	EPRI501-1000
45	Base							1014	0.0969		

Run 0202p; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth =	20.0 ft.
PGA =	.206 g
Amax =	.206 g
CSR Max =	0.133
CSR Min =	0.037

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.133
9	760.0	0.131
14	1,360.0	0.125
18	1,906.0	0.117
22	2,358.0	0.111
26	2,660.4	0.115
29	2,748.0	0.118
34	2,960.9	0.120
42	3,337.8	0.121
47	3,749.7	0.123
52	4,072.7	0.127
57	4,395.7	0.131
62	4,718.7	0.132
69	5,099.3	0.131
74	5,479.9	0.130
79	5,802.9	0.126
84	6,125.9	0.123
89	6,448.9	0.118
94	6,771.9	0.115
99	7,094.9	0.116
104	7,417.9	0.117
109	7,740.9	0.117
114	8,063.9	0.118
119	8,386.9	0.116
124	8,709.9	0.115
129	9,032.9	0.113
134	9,355.9	0.111
144	9,840.4	0.108
154	10,486.4	0.103
164	11,132.4	0.098
174	11,778.4	0.092
184	12,424.4	0.091
194	13,070.4	0.089
214	14,039.4	0.087
234	15,341.4	0.082
254	16,653.4	0.075
274	17,965.4	0.075
324	20,261.4	0.078
384	23,899.4	0.072
459	28,432.4	0.060
559	34,397.4	0.053
679	42,003.4	0.048
814	50,044.9	0.042
1014	62,970.4	0.037





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.69 sec
Average Shear Wave Velocity for Soil Column: 1533 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

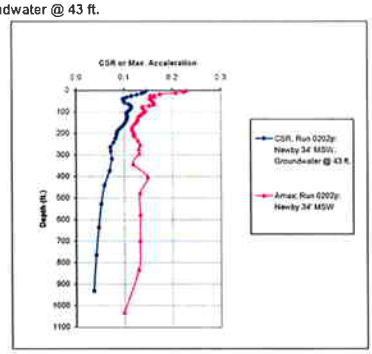
No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

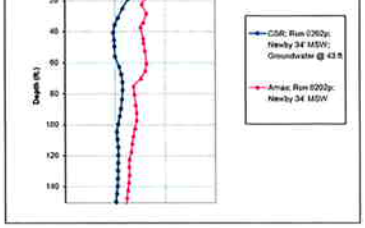
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.5	456.6	0.0098	44.75	428.6974	0	0.22796	Waste (K&M)	Waste (K&M)
2	7.5	0.08	7.5	514.2	0.0255	131.1	454.9348	5	0.22214	Waste (K&M)	Waste (K&M)
3	13	0.08	8.6	564.1	0.03926	217.51	472.2555	10	0.20653	Waste (K&M)	Waste (K&M)
4	19	0.08	9	622.8	0.04746	295.52	500.5962	16	0.17357	Waste (K&M)	Waste (K&M)
5	25	0.08	9.2	695.9	0.05062	352.29	529.2445	22	0.16367	Waste (K&M)	Waste (K&M)
6	31	0.08	9.3	774.4	0.05209	403.33	558.2974	28	0.15314	Waste (K&M)	Waste (K&M)
7	35.5	0.12	5.4	1636.5	0.02705	442.81	662.667	34	0.15622	Clay PI=22	Clay PI=22
8	40.5	0.113	6.8	753.1	0.06817	513.41	463.2496	37	0.15127	Clay PI=30	Clay PI=30
9	45.5	0.12	8.299999	621.8	0.09460	588.76	408.4724	44	0.15651		
10	49.5	0.113	6.4	1046.7	0.05078	625.64	546.1348	47	0.15726	Clay PI=30	Clay PI=30
11	56	0.125	4.4	1977.3	0.0349	690.12	713.6803	52	0.15875	Sand Upper	Sand lower
12	62.5	0.127	7.900001	1345	0.06067	816.05	583.9655	60	0.16288	Clay PI=19	Clay PI=19
13	67.5	0.127	8.2	1292.7	0.06976	902.22	572.4093	65	0.16008	Clay PI=19	Clay PI=19
14	72.5	0.127	8.6	1250	0.07809	978.09	562.9646	70	0.15185	Clay PI=19	Clay PI=19
15	77.5	0.127	8.5	1364.1	0.076	1036.78	588.0973	76	0.13665	Clay PI=19	Clay PI=19
16	83.5	0.125	5.9	2027.2	0.05389	1092.52	722.8387	80	0.13834	EPRI 51-120'	EPRI 51-120'
17	89.5	0.127	8.5	1512.7	0.07522	1137.77	610.302	87	0.14088	Clay PI=19	Clay PI=19
18	94.5	0.127	8.2	1715.3	0.06795	1165.49	659.4716	92	0.14324	Clay PI=19	Clay PI=19
19	99.5	0.127	8.2	1759.7	0.06735	1185.1	667.9522	97	0.14306	Clay PI=19	Clay PI=19
20	104.5	0.127	8.2	1748.7	0.06911	1208.46	665.8612	102	0.13992	Clay PI=19	Clay PI=19
21	109.5	0.127	8.2	1827.1	0.06988	1276.8	680.624	107	0.13676	Clay PI=19	Clay PI=19
22	114.5	0.127	8.4	1792.7	0.07499	1338.66	674.1992	112	0.13378	Clay PI=19	Clay PI=19
23	119.5	0.127	8.6	1756.6	0.07929	1395.17	667.9332	117	0.13174	Clay PI=19	Clay PI=19
24	124.5	0.127	8.8	1727.2	0.08368	1444.94	661.7552	122	0.12818	Clay PI=19	Clay PI=19
25	129.5	0.127	8.1	2253.8	0.06821	1492.18	765.9338	127	0.12786	Clay PI=19	Clay PI=19
26	134.5	0.127	8.5	2491.4	0.06189	1541.99	794.7816	132	0.12817	EPRI 51-120'	EPRI 51-120'
27	139.5	0.127	8.6	2460.7	0.06424	1580.69	789.8699	137	0.12888	EPRI 51-120'	EPRI 51-120'
28	144.5	0.127	8.8	2435.4	0.06623	1612.87	785.7985	142	0.12469	EPRI 51-120'	EPRI 51-120'
29	149.5	0.127	8.9	2416	0.06778	1637.56	782.6625	147	0.12303	EPRI 51-120'	EPRI 51-120'
30	157	0.127	5.2	2723.9	0.06167	1678.74	831.0305	152	0.12172	EPRI 121-250	EPRI 121-250
31	167	0.127	5.3	2706.2	0.06293	1703.03	828.335	162	0.11758	EPRI 121-250	EPRI 121-250
32	177	0.127	5.3	2698.9	0.06335	1709.78	827.217	172	0.11499	EPRI 121-250	EPRI 121-250
33	187	0.127	5.3	2705	0.0627	1699.13	828.1514	182	0.11541	EPRI 121-250	EPRI 121-250
34	197	0.127	4.3	3831.7	0.04602	1763.41	985.6479	192	0.11057	EPRI 121-250	EPRI 121-250
35	207	0.127	4.2	4136.5	0.04416	1827.5	1024.1	202	0.11837	EPRI 121-250	EPRI 121-250
36	222	0.127	4.3	4098.7	0.04844	1903.54	1019.411	212	0.12129	EPRI 121-250	EPRI 121-250
37	242	0.128	4.3	4108.3	0.04777	1962.6	1018.609	232	0.1282	EPRI 121-250	EPRI 121-250
38	262	0.128	4.1	4551.3	0.04292	1953.38	1070.017	252	0.13263	EPRI 121-250	EPRI 121-250
39	282	0.128	2	12859.2	0.01626	2106.61	1805.581	272	0.12977	EPRI 251-500	EPRI 251-500
40	317	0.129	3.3	6243.4	0.0391	2441.13	1248.371	292	0.13055	EPRI 251-500	EPRI 251-500
41	372	0.129	3.3	6887.7	0.03913	2695.34	1311.204	342	0.11817	EPRI 251-500	EPRI 251-500
42	439.5	0.13	3	8383.4	0.03166	2653.11	1441.008	402	0.14845	EPRI 251-500	EPRI 251-500
43	627	0.131	1.8	10621.8	0.02656	2821.08	1615.799	477	0.13205	EPRI501-1000	EPRI501-1000
44	637	0.132	1.8	11806.8	0.02567	3077.76	1703.555	577	0.13274	EPRI501-1000	EPRI501-1000
45	764.5	0.133	1.7	13126.7	0.02458	3278.45	1782.707	697	0.1323	EPRI501-1000	EPRI501-1000
46	932	0.135	1.2	24143.4	0.01471	3550.48	2399.718	832	0.12932	EPRI501-1000	EPRI501-1000
47	Base							1032	0.09918		

Run 0202p; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.228 g
Amax =	.228 g
CSR Max =	0.145
CSR Min =	0.036

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.145
10	600.0	0.142
16	1,040.0	0.136
22	1,520.0	0.126
28	2,000.0	0.114
34	2,480.0	0.106
37	2,800.0	0.099
44	3,475.5	0.096
47	3,895.0	0.098
52	4,107.9	0.099
60	4,484.8	0.100
65	4,696.7	0.108
70	5,219.7	0.112
76	5,542.7	0.114
80	5,865.7	0.115
87	6,246.3	0.114
92	6,626.9	0.112
97	6,949.9	0.109
102	7,272.9	0.106
107	7,595.9	0.103
112	7,918.9	0.105
117	8,241.9	0.106
122	8,564.9	0.106
127	8,887.9	0.106
132	9,210.9	0.105
137	9,533.9	0.105
142	9,856.9	0.104
147	10,179.9	0.103
152	10,502.9	0.101
162	10,987.4	0.099
172	11,933.4	0.095
182	12,279.4	0.091
192	12,925.4	0.085
202	13,571.4	0.084
212	14,217.4	0.084
232	15,186.4	0.081
252	16,486.4	0.077
272	17,800.4	0.071
292	19,112.4	0.072
342	21,433.4	0.074
402	25,096.4	0.070
477	29,829.4	0.058
577	35,594.4	0.052
697	43,200.4	0.049
832	52,141.9	0.041
1032	64,167.4	0.036





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 2.75 sec
Average Shear Wave Velocity for Soil Column: 1526 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

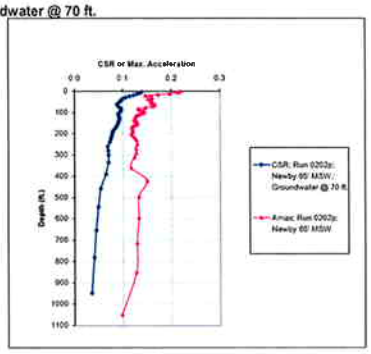
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

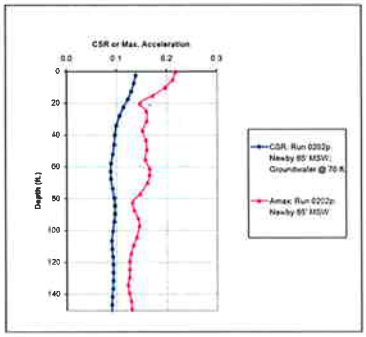
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.4	456.8	0.00928	42.45	428.7913	0	0.21711	Waste (K&M)	Waste (K&M)
2	7.5	0.08	7.5	492.2	0.02523	124.19	445.0961	5	0.21181	Waste (K&M)	Waste (K&M)
3	12.5	0.08	8.299999	555.3	0.03583	198.07	472.7666	10	0.1964	Waste (K&M)	Waste (K&M)
4	17.5	0.08	8.7	624.4	0.04217	263.33	501.3193	15	0.17173	Waste (K&M)	Waste (K&M)
5	22.5	0.08	9	672.7	0.04673	314.31	520.3477	20	0.14017	Waste (K&M)	Waste (K&M)
6	28	0.08	9.099999	750.3	0.0485	363.95	549.5414	25	0.15901	Waste (K&M)	Waste (K&M)
7	34	0.08	9.3	802	0.0518	418.19	568.1583	31	0.15966	Waste (K&M)	Waste (K&M)
8	40	0.08	9.4	885.6	0.05348	473.48	597.0377	37	0.15138	Waste (K&M)	Waste (K&M)
9	46	0.08	9.6	941.4	0.05683	535.05	615.5595	43	0.15828	Waste (K&M)	Waste (K&M)
10	52	0.08	9.700001	1000.2	0.05883	588.42	634.4923	49	0.15968	Waste (K&M)	Waste (K&M)
11	58	0.09	9.4	1203	0.05261	632.95	656.0538	55	0.1567	Waste (K&M)	Waste (K&M)
12	63	0.12	6.5	1700.5	0.04119	700.44	675.5004	61	0.16494	Clay PI=22	Clay PI=22
13	67.5	0.12	6.8	1641.6	0.04746	779.02	663.6687	65	0.16501	Clay PI=22	Clay PI=22
14	73.5	0.125	5.9	1492.8	0.05873	876.65	620.1172	70	0.16111	Sand Upper	Sand lower
15	79.5	0.127	8.299999	1352.7	0.07146	966.58	585.6347	77	0.14962	Clay PI=19	Clay PI=19
16	84.5	0.127	8.6	1318.2	0.07785	1026.2	578.1183	82	0.13108	Clay PI=19	Clay PI=19
17	89.5	0.127	8.8	1288.2	0.08321	1071.91	571.502	87	0.13499	Clay PI=19	Clay PI=19
18	94.5	0.127	8.6	1426	0.07744	1104.23	601.2925	92	0.14261	Clay PI=19	Clay PI=19
19	100.5	0.125	5.9	2123.5	0.05336	1133.18	739.6037	97	0.14503	EPRI 51-120'	EPRI 51-120'
20	106.5	0.127	8.4	1558	0.07375	1148.07	628.5065	104	0.14019	Clay PI=19	Clay PI=19
21	111.5	0.127	8.2	1750	0.06907	1206.71	666.1087	109	0.13336	Clay PI=19	Clay PI=19
22	116.5	0.127	8.299999	1770.9	0.07187	1272.74	670.0745	114	0.1265	Clay PI=19	Clay PI=19
23	121.5	0.127	8.5	1736.9	0.07630	1328.43	663.9628	119	0.12547	Clay PI=19	Clay PI=19
24	126.5	0.127	8.5	1826.5	0.07538	1376.96	680.5122	124	0.12517	Clay PI=19	Clay PI=19
25	131.5	0.127	8.6	1801.3	0.07875	1418.46	675.8015	129	0.1252	Clay PI=19	Clay PI=19
26	136.5	0.127	8.7	1776.9	0.08185	1454.39	671.2087	134	0.12209	Clay PI=19	Clay PI=19
27	141.5	0.127	8.8	1756.5	0.08453	1484.83	667.3446	139	0.1245	Clay PI=19	Clay PI=19
28	146.5	0.127	8	2366.1	0.0641	1518.99	774.5378	144	0.12678	Clay PI=19	Clay PI=19
29	151.5	0.127	6.4	2546.3	0.06107	1558.33	803.8062	149	0.13014	EPRI 51-120'	EPRI 51-120'
30	156.5	0.127	6.5	2527.6	0.0626	1582.4	800.5349	154	0.12857	EPRI 51-120'	EPRI 51-120'
31	161.5	0.127	6.6	2510.7	0.06387	1603.58	797.8541	159	0.12532	EPRI 51-120'	EPRI 51-120'
32	166.5	0.127	6.7	2499.2	0.06471	1617.33	796.0248	164	0.12121	EPRI 51-120'	EPRI 51-120'
33	174	0.127	5	2822.1	0.05827	1644.38	845.8868	169	0.11748	EPRI 121-250	EPRI 121-250
34	184	0.127	5	2822.7	0.05813	1640.73	845.9767	179	0.11853	EPRI 121-250	EPRI 121-250
35	194	0.127	5.1	2800.4	0.0601	1682.97	842.6284	189	0.12022	EPRI 121-250	EPRI 121-250
36	204	0.127	5.3	2765.4	0.06285	1738.2	837.3462	199	0.11664	EPRI 121-250	EPRI 121-250
37	214	0.128	4.2	4024.1	0.04449	1790.17	1006.138	209	0.11961	EPRI 121-250	EPRI 121-250
38	224	0.128	4.1	4256.9	0.0432	1838.14	1054.832	219	0.12419	EPRI 121-250	EPRI 121-250
39	239	0.128	4.2	4228.4	0.04477	1893.27	1051.362	229	0.12794	EPRI 121-250	EPRI 121-250
40	259	0.128	4.2	4214.6	0.04554	1919.18	1029.677	249	0.12966	EPRI 121-250	EPRI 121-250
41	279	0.128	4.2	4577.9	0.04583	2096.13	1073.139	269	0.12665	EPRI 121-250	EPRI 121-250
42	299	0.128	2.1	12994.8	0.01725	2242	1808.039	289	0.12744	EPRI 251-500	EPRI 251-500
43	334	0.128	3.3	8263.3	0.03996	2503.06	1255.234	309	0.12388	EPRI 251-500	EPRI 251-500
44	389	0.129	3.2	7013.8	0.03793	2660.17	1323.152	359	0.11713	EPRI 251-500	EPRI 251-500
45	456.5	0.13	2.9	8554.7	0.03011	2575.42	1455.656	419	0.14078	EPRI 251-500	EPRI 251-500
46	544	0.131	1.8	10770.1	0.02596	2796.32	1627.655	494	0.13258	EPRI501-1000	EPRI501-1000
47	654	0.132	1.8	11902.8	0.02574	3063.57	1703.984	594	0.13305	EPRI501-1000	EPRI501-1000
48	781.5	0.133	1.8	13262.5	0.02506	3323.08	1791.904	714	0.12869	EPRI501-1000	EPRI501-1000
49	949	0.135	1.2	24139.6	0.01476	3562.98	2399.53	849	0.1273	EPRI501-1000	EPRI501-1000
50	Base							1049	0.09766		

Run 0202p; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.217 g
Amax =	.217 g
CSR Max =	0.138
CSR Min =	0.040

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.138
10	600.0	0.135
15	1,000.0	0.129
20	1,400.0	0.122
25	1,800.0	0.114
31	2,240.0	0.106
37	2,720.0	0.099
43	3,200.0	0.096
49	3,680.0	0.095
55	4,160.0	0.092
61	4,670.0	0.088
65	5,180.0	0.088
70	5,720.0	0.089
77	6,239.1	0.091
82	6,619.7	0.095
87	6,942.7	0.096
92	7,265.7	0.096
97	7,588.7	0.095
104	7,969.3	0.092
109	8,349.9	0.089
114	8,672.9	0.091
119	8,995.9	0.092
124	9,318.9	0.093
129	9,641.9	0.093
134	9,964.9	0.093
139	10,287.9	0.092
144	10,610.9	0.091
149	10,933.9	0.090
154	11,256.9	0.090
159	11,579.9	0.089
164	11,902.9	0.088
169	12,225.9	0.086
179	12,710.4	0.084
189	13,356.4	0.080
199	14,002.4	0.078
209	14,648.4	0.077
219	15,296.4	0.076
229	15,945.4	0.075
249	16,939.4	0.073
269	18,251.4	0.068
289	19,563.4	0.070
309	20,875.4	0.070
359	23,171.4	0.070
419	26,806.4	0.064
494	31,342.4	0.053
594	37,307.4	0.049
714	44,913.4	0.044
849	53,854.9	0.040
1049	65,880.4	0.035





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 2.83 sec
Average Shear Wave Velocity for Soil Column: 1504 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

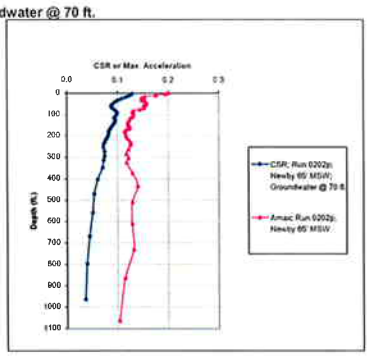
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	5.3	457	0.00871	38.8	428.8852	
2	8	0.08	7.3	514.9	0.02414	124.31	455.2442	
3	14	0.08	8.4	578.8	0.03611	208.91	482.5832	
4	20	0.08	8.8	648.6	0.04366	283.18	510.9418	
5	26	0.08	9.099999	724	0.04706	347.23	539.824	
6	32	0.08	9.3	774.4	0.05197	402.46	558.2974	
7	38	0.08	9.4	857.2	0.05292	453.65	587.3866	
8	44	0.08	9.6	912.6	0.05587	500.9	606.0706	
9	50	0.09	9.2	1135.7	0.04974	564.88	637.4388	
10	56	0.09	9.3	1204.7	0.05118	616.58	656.5172	
11	62	0.09	9.5	1273.6	0.05428	661.29	675.0302	
12	68	0.09	9.8	1344.9	0.05693	705.06	693.668	
13	74	0.09	9.700001	1419.3	0.05872	833.46	712.5967	
14	80	0.09	9.8	1496.8	0.05967	893.11	731.7635	
15	86	0.09	9.8	1577.5	0.05983	943.73	751.2619	
16	92	0.09	9.8	1661.3	0.05931	985.28	770.958	
17	99.5	0.12	7.8	1478.5	0.06999	1034.78	629.8657	
18	107.5	0.127	8.900001	1237.5	0.08637	1068.86	560.1427	
19	114.5	0.125	8.3	1882.5	0.05887	1110.02	696.3706	
20	120.5	0.127	8.900001	1378.6	0.06544	1177.87	591.2147	
21	125.5	0.127	8.6	1565.8	0.07888	1231.92	630.0779	
22	130.5	0.127	8.7	1593.4	0.08015	1277.2	635.6068	
23	135.5	0.127	8.8	1568.5	0.08383	1314.85	630.6208	
24	140.5	0.127	8.7	1663.3	0.08096	1346.9	649.3986	
25	145.5	0.127	8.8	1645.5	0.08346	1373.34	645.9145	
26	150.5	0.127	8.900001	1631.5	0.08543	1393.77	643.1609	
27	155.5	0.127	8.900001	1621.2	0.08685	1407.97	641.1274	
28	160.5	0.127	8	2219.6	0.06437	1426.63	750.1765	
29	165.5	0.127	6.4	2399.8	0.06073	1457.43	780.0341	
30	170.5	0.127	6.5	2391.3	0.06135	1467.04	778.6515	
31	175.5	0.127	6.5	2382	0.06224	1482.58	777.1359	
32	180.5	0.127	6.7	2353.6	0.06477	1524.51	772.4892	
33	188	0.127	5.1	2640.2	0.05962	1579.27	818.1718	
34	198	0.127	5.3	2603.5	0.06285	1636.25	812.4654	
35	208	0.127	5.4	2576.3	0.06507	1676.4	808.2101	
36	218	0.127	5.5	2557.5	0.06661	1703.55	805.2716	
37	228	0.127	4.3	3763.9	0.04601	1731.71	976.8667	
38	238	0.127	4.1	4067.3	0.04288	1751.96	1017.992	
39	253	0.127	4.2	4046.9	0.04552	1841.97	1012.946	
40	273	0.128	4.5	3963.6	0.05168	2048.32	998.5455	
41	293	0.128	4.5	4321.5	0.05104	2205.89	1042.654	
42	313	0.128	2.2	12473.9	0.01843	2299.13	1771.43	
43	348	0.129	3.3	8119	0.04047	2476.08	1235.871	
44	403	0.129	3.1	8673.3	0.03598	2473.26	1309.832	
45	479.5	0.13	2.9	8433.8	0.03046	2569.01	1445.333	
46	558	0.131	1.8	10594.5	0.02735	2897.56	1613.736	
47	668	0.132	1.8	11746.1	0.02628	3085.36	1692.875	
48	795.5	0.133	1.8	12963.4	0.0254	3292.7	1771.583	
49	963	0.135	1.2	24103.1	0.0154	3711.75	2397.715	
50	Base							

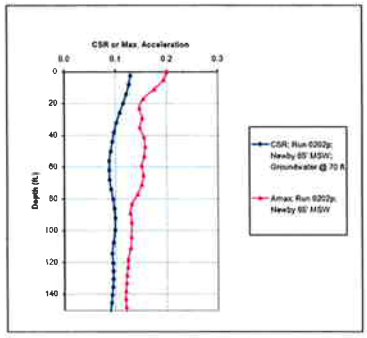
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.20014	Waste (K&M)	Waste (K&M)
5	0.1939	Waste (K&M)	Waste (K&M)
11	0.17597	Waste (K&M)	Waste (K&M)
17	0.15406	Waste (K&M)	Waste (K&M)
23	0.1488	Waste (K&M)	Waste (K&M)
29	0.15236	Waste (K&M)	Waste (K&M)
35	0.14754	Waste (K&M)	Waste (K&M)
41	0.15538	Waste (K&M)	Waste (K&M)
47	0.15828	Waste (K&M)	Waste (K&M)
53	0.1564	Waste (K&M)	Waste (K&M)
59	0.15144	Waste (K&M)	Waste (K&M)
65	0.15409	Waste (K&M)	Waste (K&M)
71	0.15114	Waste (K&M)	Waste (K&M)
77	0.14344	Waste (K&M)	Waste (K&M)
83	0.13188	Waste (K&M)	Waste (K&M)
89	0.12875	Waste (K&M)	Waste (K&M)
95	0.13141	Clay PI=22	Clay PI=22
104	0.1309	Clay PI=19	Clay PI=19
111	0.12944	EPRI 51-120'	EPRI 51-120'
118	0.12457	Clay PI=19	Clay PI=19
123	0.12375	Clay PI=19	Clay PI=19
128	0.12214	Clay PI=19	Clay PI=19
133	0.1211	Clay PI=19	Clay PI=19
138	0.12004	Clay PI=19	Clay PI=19
143	0.11971	Clay PI=19	Clay PI=19
148	0.12063	Clay PI=19	Clay PI=19
153	0.122	Clay PI=19	Clay PI=19
158	0.12452	Clay PI=19	Clay PI=19
163	0.12412	EPRI 51-120'	EPRI 51-120'
168	0.12097	EPRI 51-120'	EPRI 51-120'
173	0.11628	EPRI 51-120'	EPRI 51-120'
178	0.1134	EPRI 51-120'	EPRI 51-120'
183	0.11521	EPRI 121-250	EPRI 121-250
193	0.11570	EPRI 121-250	EPRI 121-250
203	0.11717	EPRI 121-250	EPRI 121-250
213	0.12003	EPRI 121-250	EPRI 121-250
223	0.12422	EPRI 121-250	EPRI 121-250
233	0.12667	EPRI 121-250	EPRI 121-250
243	0.12558	EPRI 121-250	EPRI 121-250
263	0.12186	EPRI 121-250	EPRI 121-250
283	0.11745	EPRI 121-250	EPRI 121-250
303	0.12144	EPRI 251-500	EPRI 251-500
323	0.11755	EPRI 251-500	EPRI 251-500
373	0.12023	EPRI 251-500	EPRI 251-500
433	0.14023	EPRI 251-500	EPRI 251-500
508	0.12935	EPRI501-100(	EPRI501-1000
608	0.12830	EPRI501-100(	EPRI501-1000
728	0.13172	EPRI501-100(	EPRI501-1000
863	0.11451	EPRI501-100(	EPRI501-1000
1063	0.10404		

Run 0202p; Newby 95' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.200 g
Amax =	.200 g
CSR Max =	0.129
CSR Min =	0.040

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.129
11	640.0	0.126
17	1,120.0	0.121
23	1,600.0	0.115
29	2,080.0	0.109
35	2,560.0	0.102
41	3,040.0	0.097
47	3,520.0	0.094
53	4,030.0	0.091
59	4,570.0	0.088
65	5,110.0	0.088
71	5,650.0	0.088
77	5,940.4	0.091
83	6,106.0	0.095
89	6,271.6	0.098
95	6,437.2	0.099
104	6,779.2	0.099
111	7,264.5	0.096
118	7,709.7	0.094
123	8,090.3	0.095
128	8,413.3	0.095
133	8,736.3	0.095
138	9,059.3	0.094
143	9,382.3	0.093
148	9,705.3	0.092
153	10,028.3	0.090
158	10,351.3	0.088
163	10,674.3	0.087
168	10,997.3	0.086
173	11,320.3	0.084
178	11,643.3	0.083
183	11,966.3	0.083
193	12,450.8	0.082
203	13,096.8	0.081
213	13,742.8	0.079
223	14,388.8	0.077
233	15,034.8	0.075
243	15,680.8	0.073
263	16,649.8	0.072
283	17,951.8	0.074
303	19,253.8	0.074
323	20,575.8	0.073
373	22,896.8	0.070
433	26,559.8	0.061
508	31,092.8	0.054
608	37,057.8	0.051
728	44,663.8	0.045
863	53,605.3	0.040
1063	65,630.8	0.037





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.06 sec
Average Shear Wave Velocity for Soil Column: 1450 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

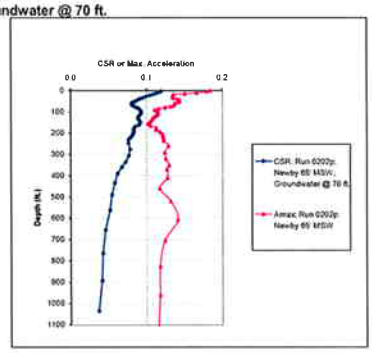
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	5.2	457.4	0.008	36.57	429.0728	
2	7.5	0.08	7.1	493.9	0.0218	107.69	445.864	
3	12.5	0.08	8	557.1	0.03125	174.14	473.5322	
4	17.5	0.08	8.4	626.2	0.03748	234.67	502.0414	
5	22.5	0.08	8.8	674.1	0.04287	288.95	520.8868	
6	27.5	0.08	8.900001	751.7	0.04467	337.32	550.0639	
7	32.5	0.08	9	805.3	0.04732	381.09	569.327	
8	37.5	0.08	9.099999	860.7	0.0491	422.58	588.5845	
9	42.5	0.08	9.2	917.5	0.05059	464.22	607.6954	
10	47.5	0.09	9	1104	0.04564	506.08	628.4796	
11	52.5	0.09	9	1173.6	0.0486	548.87	647.9877	
12	57.5	0.09	9.099999	1208.4	0.04818	582.23	657.5247	
13	62.5	0.09	9.2	1279.5	0.04904	638.97	676.5919	
14	67.5	0.09	9.3	1352.6	0.05143	695.62	695.6252	
15	72.5	0.09	9.4	1428.3	0.05241	748.57	714.8524	
16	77.5	0.09	9.5	1464.7	0.05438	796.55	723.9041	
17	82.5	0.09	9.5	1544.9	0.05438	840.21	743.4587	
18	87.5	0.09	9.5	1584.2	0.0554	877.67	752.8656	
19	93	0.09	9.5	1668.8	0.05472	913.08	772.8963	
20	98	0.09	9.4	1756.1	0.05376	943.92	792.8497	
21	105	0.09	9.3	1846.5	0.05238	967.17	812.7056	
22	111	0.09	9.3	1892	0.052	983.78	822.7488	
23	117	0.09	9.2	1987.3	0.05008	995.33	843.2151	
24	123	0.09	9.099999	2084.9	0.04811	1002.95	863.6729	
25	130	0.09	9.099999	2132.9	0.04787	1016.85	873.5583	
26	138	0.09	9.099999	2229.6	0.04704	1068.95	893.1413	
27	146	0.09	9.099999	2328.8	0.04782	1113.62	912.794	
28	154	0.12	7.900001	1868.5	0.06679	1164.48	680.1145	
29	161.5	0.125	7.4	1568.8	0.07661	1201.96	635.7066	
30	170	0.127	8.7	1517.6	0.07982	1211.28	620.3042	
31	180	0.127	8.5	1657.4	0.07625	1263.75	648.2458	
32	190	0.127	8.6	1720.8	0.07654	1351.44	660.5281	
33	200	0.127	8.8	1675.8	0.08483	1421.43	651.7953	
34	210	0.127	6.5	2387.1	0.06205	1481.16	777.9674	
35	220	0.127	6.5	2430.3	0.06248	1518.06	784.9753	
36	230	0.127	6.6	2410.6	0.06401	1542.99	781.7574	
37	247.5	0.127	5.3	2657.9	0.063	1674.34	820.0697	
38	275	0.127	4.9	3377.2	0.05709	1928.19	925.3467	
39	305	0.128	4.7	3994.7	0.05316	2123.5	1002.455	
40	335	0.128	4.7	4201.6	0.05298	2225.9	1028.088	
41	360	0.128	2.1	12677.1	0.01764	2236.71	1785.8	
42	390	0.128	3.2	6160.9	0.03648	2247.73	1244.93	
43	435	0.128	3.2	6269.8	0.03784	2372.68	1251.008	
44	490	0.129	2.9	8388.7	0.02699	2515.98	1447.04	
45	562.5	0.13	3	8691.2	0.03221	2799.28	1467.223	
46	655	0.131	1.8	11005.4	0.02645	2910.84	1644.732	
47	765	0.132	1.8	12435.0	0.02584	3213.66	1741.725	
48	892.5	0.133	1.8	13441.7	0.02723	3660.65	1803.97	
49	1035	0.135	1.2	24008.5	0.01607	3859.03	2393.005	
50	Base							

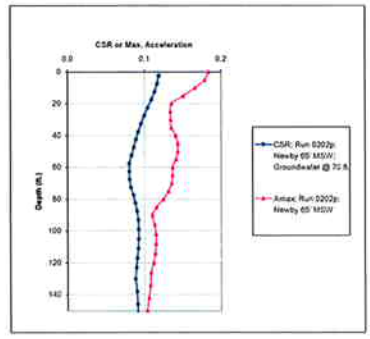
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.18383	Waste (K&M)	Waste (K&M)
5	0.17879	Waste (K&M)	Waste (K&M)
10	0.16615	Waste (K&M)	Waste (K&M)
15	0.15053	Waste (K&M)	Waste (K&M)
20	0.13511	Waste (K&M)	Waste (K&M)
25	0.13345	Waste (K&M)	Waste (K&M)
30	0.134	Waste (K&M)	Waste (K&M)
35	0.13490	Waste (K&M)	Waste (K&M)
40	0.14067	Waste (K&M)	Waste (K&M)
45	0.14365	Waste (K&M)	Waste (K&M)
50	0.14369	Waste (K&M)	Waste (K&M)
55	0.14114	Waste (K&M)	Waste (K&M)
60	0.13656	Waste (K&M)	Waste (K&M)
65	0.13065	Waste (K&M)	Waste (K&M)
70	0.13526	Waste (K&M)	Waste (K&M)
75	0.13114	Waste (K&M)	Waste (K&M)
80	0.12446	Waste (K&M)	Waste (K&M)
85	0.11574	Waste (K&M)	Waste (K&M)
90	0.1105	Waste (K&M)	Waste (K&M)
96	0.11315	Waste (K&M)	Waste (K&M)
102	0.11492	Waste (K&M)	Waste (K&M)
108	0.11504	Waste (K&M)	Waste (K&M)
114	0.11383	Waste (K&M)	Waste (K&M)
120	0.11192	Waste (K&M)	Waste (K&M)
126	0.10874	Waste (K&M)	Waste (K&M)
134	0.10775	Waste (K&M)	Waste (K&M)
142	0.1059	Waste (K&M)	Waste (K&M)
150	0.1037	Clay PI=22	Clay PI=22
158	0.10106	EPRI 51-120'	EPRI 51-120'
165	0.10514	Clay PI=19	Clay PI=19
175	0.11294	Clay PI=19	Clay PI=19
185	0.11198	Clay PI=19	Clay PI=19
195	0.11766	Clay PI=19	Clay PI=19
205	0.121	EPRI 51-120'	EPRI 51-120'
215	0.12152	EPRI 51-120'	EPRI 51-120'
225	0.12227	EPRI 51-120'	EPRI 51-120'
235	0.12216	EPRI 121-250	EPRI 121-250
260	0.12875	EPRI 121-250	EPRI 121-250
290	0.12413	EPRI 121-250	EPRI 121-250
320	0.12512	EPRI 121-250	EPRI 121-250
350	0.12927	EPRI 251-500	EPRI 251-500
370	0.12642	EPRI 251-500	EPRI 251-500
410	0.1272	EPRI 251-500	EPRI 251-500
460	0.11727	EPRI 251-500	EPRI 251-500
520	0.13154	EPRI 251-500	EPRI 251-500
605	0.14129	EPRI501-100(	EPRI501-1000
705	0.12408	EPRI501-100(	EPRI501-1000
825	0.11755	EPRI501-100(	EPRI501-1000
960	0.11767	EPRI501-100(	EPRI501-1000
1110	0.11571		

Run 0202p; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.184 g
Amax =	.184 g
CSR Max =	0.119
CSR Min =	0.041

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.119
10	600.0	0.117
15	1,000.0	0.113
20	1,400.0	0.109
25	1,800.0	0.104
30	2,200.0	0.100
35	2,600.0	0.095
40	3,000.0	0.092
45	3,400.0	0.089
50	3,825.0	0.088
55	4,275.0	0.083
60	4,725.0	0.080
65	5,175.0	0.080
70	5,625.0	0.080
75	5,919.0	0.082
80	6,057.0	0.085
85	6,195.0	0.088
90	6,333.0	0.090
96	6,484.8	0.092
102	6,650.4	0.092
108	6,816.0	0.092
114	6,981.6	0.092
120	7,147.2	0.091
126	7,312.8	0.089
134	7,506.0	0.088
142	7,726.8	0.090
150	7,947.6	0.091
158	8,288.4	0.091
165	8,737.9	0.089
175	9,280.0	0.085
185	9,926.0	0.083
195	10,572.0	0.083
205	11,218.0	0.082
215	11,864.0	0.081
225	12,510.0	0.079
235	13,156.0	0.078
260	14,286.5	0.076
290	16,063.0	0.078
320	18,016.0	0.077
350	19,984.0	0.072
370	21,624.0	0.067
410	23,592.0	0.062
460	26,589.0	0.058
520	30,232.0	0.054
605	35,103.0	0.052
705	41,406.0	0.046
825	49,012.0	0.043
960	57,953.5	0.041
1110	68,164.0	0.037





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.12 sec
Average Shear Wave Velocity for Soil Column: 1461 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

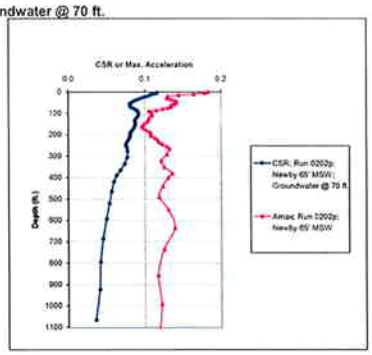
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

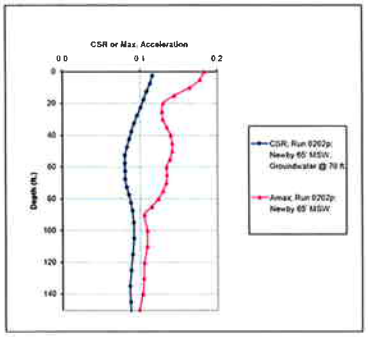
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.1	457.5	0.00770	35.62	429.1196	0	0.18274	Waste (K&M)	Waste (K&M)
2	7.5	0.08	7	494.4	0.02104	104.03	446.0897	5	0.17777	Waste (K&M)	Waste (K&M)
3	12.5	0.08	7.900001	557.7	0.0289	166.78	473.7871	10	0.16381	Waste (K&M)	Waste (K&M)
4	17.5	0.08	8.299999	626.9	0.03563	225.22	502.3219	15	0.14416	Waste (K&M)	Waste (K&M)
5	22.5	0.08	8.7	674.8	0.04117	277.83	521.1503	20	0.12963	Waste (K&M)	Waste (K&M)
6	27.5	0.08	8.8	752.4	0.04319	324.97	550.3099	25	0.1284	Waste (K&M)	Waste (K&M)
7	32.5	0.08	8.900001	806.1	0.0456	367.56	569.8097	30	0.12913	Waste (K&M)	Waste (K&M)
8	37.5	0.08	9	861.8	0.04727	407.39	588.9947	35	0.13433	Waste (K&M)	Waste (K&M)
9	42.5	0.08	9.099999	919.5	0.04858	448.74	608.3905	40	0.13926	Waste (K&M)	Waste (K&M)
10	47.5	0.09	8.900001	1105.1	0.04397	485.89	628.7027	45	0.14160	Waste (K&M)	Waste (K&M)
11	52.5	0.09	8.900001	1174.8	0.04465	524.58	648.3188	50	0.14133	Waste (K&M)	Waste (K&M)
12	57.5	0.09	9	1245.9	0.04646	578.85	667.6491	55	0.1385	Waste (K&M)	Waste (K&M)
13	62.5	0.09	9.2	1279.6	0.04968	638.02	676.6183	60	0.13395	Waste (K&M)	Waste (K&M)
14	67.5	0.09	9.3	1352.7	0.05131	694.06	695.6766	65	0.13461	Waste (K&M)	Waste (K&M)
15	72.5	0.09	9.4	1387.5	0.05378	746.29	704.5684	70	0.13354	Waste (K&M)	Waste (K&M)
16	77.5	0.09	9.5	1465	0.05419	793.89	723.0782	75	0.12941	Waste (K&M)	Waste (K&M)
17	82.5	0.09	9.5	1545.4	0.05412	836.33	743.579	80	0.12307	Waste (K&M)	Waste (K&M)
18	87.5	0.09	9.5	1584.7	0.05512	873.53	752.9744	85	0.11465	Waste (K&M)	Waste (K&M)
19	95	0.09	9.5	1668.2	0.05506	918.57	772.5574	90	0.10513	Waste (K&M)	Waste (K&M)
20	105	0.09	9.4	1800.5	0.05334	960.29	802.8075	100	0.10871	Waste (K&M)	Waste (K&M)
21	115	0.09	9.2	1940.1	0.05069	983.5	833.1414	110	0.10882	Waste (K&M)	Waste (K&M)
22	125	0.09	9.099999	2085.3	0.0477	994.79	863.7557	120	0.10507	Waste (K&M)	Waste (K&M)
23	135	0.105	8.8	2555.4	0.04007	1024.06	895.2435	130	0.10399	Waste (K&M)	Waste (K&M)
24	145	0.105	8.6	2728.6	0.04009	1063.86	914.7517	140	0.1027	Waste (K&M)	Waste (K&M)
25	155	0.105	8.6	2846.9	0.0403	1147.42	934.3711	150	0.09847	Waste (K&M)	Waste (K&M)
26	165	0.105	8.6	3031.7	0.03915	1186.79	964.2208	160	0.09553	Waste (K&M)	Waste (K&M)
27	175	0.105	8.5	3223.1	0.03766	1213.8	994.1918	170	0.09755	Waste (K&M)	Waste (K&M)
28	184	0.12	7.7	1907.7	0.06504	1240.75	715.4718	180	0.10205	Clay PI=22	Clay PI=22
29	191.5	0.125	6.9	1880.1	0.0679	1276.68	695.9266	188	0.10691	EPRI 51-120'	EPRI 51-120'
30	200	0.127	8.5	1783.5	0.07533	1343.59	672.4541	195	0.10759	Clay PI=19	Clay PI=19
31	210	0.127	8.5	1861.7	0.07568	1412.74	687.0383	205	0.10728	Clay PI=19	Clay PI=19
32	220	0.127	8.4	2010.1	0.0731	1456.33	713.8659	215	0.11274	Clay PI=19	Clay PI=19
33	230	0.127	8.5	1988.4	0.07605	1510.65	709.6749	225	0.11635	Clay PI=19	Clay PI=19
34	240	0.127	8.2	2700.4	0.05751	1553.02	827.4468	235	0.11844	EPRI 51-120'	EPRI 51-120'
35	250	0.127	8.3	2735.3	0.05901	1614.22	832.7767	245	0.12251	EPRI 51-120'	EPRI 51-120'
36	260	0.127	8.6	2857.4	0.06486	1723.67	820.8325	255	0.12839	EPRI 51-120'	EPRI 51-120'
37	277.5	0.127	5.4	2918.1	0.08418	1872.31	850.1639	265	0.13253	EPRI 121-250	EPRI 121-250
38	305	0.127	4.6	3716.1	0.0557	2069.98	970.6659	290	0.1284	EPRI 121-250	EPRI 121-250
39	335	0.128	4.5	4312.7	0.05122	2208.78	1041.592	320	0.12086	EPRI 121-250	EPRI 121-250
40	365	0.128	4.4	4575.2	0.04919	2250.45	1072.823	350	0.12503	EPRI 121-250	EPRI 121-250
41	390	0.128	2	13637.8	0.01634	2228.78	1852.231	380	0.1356	EPRI 251-500	EPRI 251-500
42	420	0.128	3.1	6571	0.03487	2291.39	1285.667	400	0.13013	EPRI 251-500	EPRI 251-500
43	465	0.129	3.2	6559.3	0.03727	2444.78	1279.563	440	0.12322	EPRI 251-500	EPRI 251-500
44	520	0.129	2.9	8838.2	0.02959	2615.3	1485.303	490	0.11818	EPRI 251-500	EPRI 251-500
45	592.5	0.13	2.9	9076.5	0.03078	2784.6	1496.393	550	0.13048	EPRI 251-500	EPRI 251-500
46	665	0.131	1.8	11409.1	0.026	2965.96	1674.627	635	0.13868	EPRI501-1000	EPRI501-1000
47	755	0.132	1.8	12878	0.02517	3241.88	1772.414	735	0.12461	EPRI501-1000	EPRI501-1000
48	922.5	0.133	1.8	13730.8	0.02712	3723.92	1823.296	855	0.11671	EPRI501-1000	EPRI501-1000
49	1065	0.135	1.2	24038.5	0.01585	3809.73	2394.499	990	0.12151	EPRI501-1000	EPRI501-1000
50	Base							1140	0.11803		

Run 0202p; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.183 g
Amax =	.183 g
CSR Max =	0.116
CSR Min =	0.041

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.116
10	600.0	0.113
15	1,000.0	0.108
20	1,400.0	0.105
25	1,800.0	0.100
30	2,200.0	0.096
35	2,600.0	0.092
40	3,000.0	0.088
45	3,400.0	0.085
50	3,825.0	0.083
55	4,275.0	0.080
60	4,725.0	0.080
65	5,175.0	0.080
70	5,625.0	0.080
75	5,919.0	0.082
80	6,057.0	0.085
85	6,195.0	0.088
90	6,333.0	0.090
100	6,540.0	0.091
110	6,816.0	0.092
120	7,092.0	0.090
130	7,368.0	0.088
140	7,719.0	0.086
150	8,145.0	0.087
160	8,571.0	0.087
170	8,997.0	0.086
180	9,423.0	0.084
188	9,866.4	0.082
195	10,315.9	0.080
205	10,858.0	0.080
215	11,504.0	0.080
225	12,150.0	0.079
235	12,796.0	0.077
245	13,442.0	0.075
255	14,088.0	0.074
265	14,734.0	0.076
290	15,864.5	0.077
320	17,641.0	0.076
350	19,564.0	0.073
380	21,562.0	0.068
400	23,202.0	0.062
440	25,170.0	0.056
490	28,147.0	0.056
550	31,810.0	0.053
635	36,661.0	0.050
735	42,984.0	0.045
855	50,500.0	0.042
990	59,631.5	0.041
1140	69,742.0	0.036





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.23 sec
Average Shear Wave Velocity for Soil Column: 1462 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

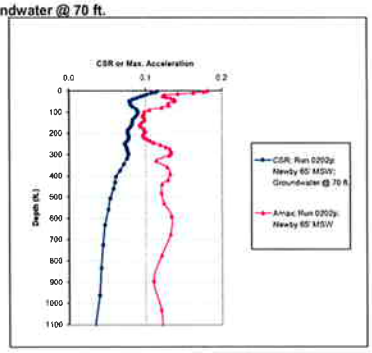
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

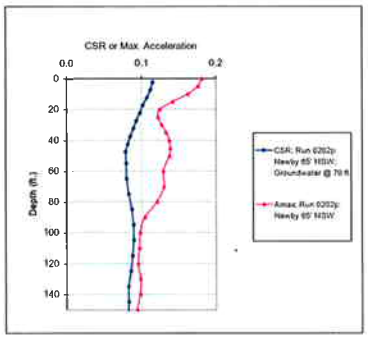
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.1	457.5	0.00772	35.32	429.1198	0	0.18087	Waste (K&M)	Waste (K&M)
2	7.5	0.08	7	494.5	0.02085	103.11	446.1348	5	0.17599	Waste (K&M)	Waste (K&M)
3	12.5	0.08	7.8	557.9	0.02957	164.99	473.8721	10	0.16235	Waste (K&M)	Waste (K&M)
4	17.5	0.08	8.299999	627.3	0.03489	218.84	502.4821	15	0.14214	Waste (K&M)	Waste (K&M)
5	22.5	0.08	8.6	675.2	0.03995	269.78	521.3137	20	0.12434	Waste (K&M)	Waste (K&M)
6	27.5	0.08	8.7	753	0.04183	315.01	550.5293	25	0.12182	Waste (K&M)	Waste (K&M)
7	32.5	0.08	8.900001	806.7	0.04405	355.38	569.8217	30	0.12583	Waste (K&M)	Waste (K&M)
8	37.5	0.08	8.900001	862.7	0.04544	392.01	589.268	35	0.13288	Waste (K&M)	Waste (K&M)
9	42.5	0.09	8.7	1038.7	0.04124	428.4	609.6095	40	0.13711	Waste (K&M)	Waste (K&M)
10	47.5	0.09	8.8	1108.2	0.04223	467.12	629.1055	45	0.13846	Waste (K&M)	Waste (K&M)
11	55	0.09	9	1173.3	0.04709	552.57	647.9048	50	0.13748	Waste (K&M)	Waste (K&M)
12	65	0.09	9.3	1278.4	0.05219	666.1	675.7719	60	0.12913	Waste (K&M)	Waste (K&M)
13	75	0.09	9.4	1426.5	0.05364	765.14	714.4019	70	0.13007	Waste (K&M)	Waste (K&M)
14	85	0.09	9.5	1544.4	0.05472	845.18	743.3384	80	0.12094	Waste (K&M)	Waste (K&M)
15	95	0.09	9.5	1669.8	0.05414	904.02	772.9278	90	0.10402	Waste (K&M)	Waste (K&M)
16	105	0.09	9.3	1802.4	0.05233	943.19	803.0309	100	0.09764	Waste (K&M)	Waste (K&M)
17	115	0.09	9.2	1942.1	0.04973	965.74	833.5707	110	0.09664	Waste (K&M)	Waste (K&M)
18	125	0.09	9	2086.2	0.04682	976.87	863.9421	120	0.09496	Waste (K&M)	Waste (K&M)
19	135	0.105	8.5	2558.1	0.0384	982.42	885.7111	130	0.0979	Waste (K&M)	Waste (K&M)
20	145	0.105	8.5	2732	0.03809	1040.51	915.3215	140	0.09742	Waste (K&M)	Waste (K&M)
21	155	0.105	8.5	2850.7	0.03813	1099.99	934.8945	150	0.09396	Waste (K&M)	Waste (K&M)
22	165	0.105	8.4	3036	0.03689	1120	964.9042	160	0.09127	Waste (K&M)	Waste (K&M)
23	175	0.105	8.299999	3227.9	0.03541	1142.88	994.9318	170	0.09326	Waste (K&M)	Waste (K&M)
24	185	0.105	8.2	3359.1	0.03451	1159.2	1014.95	180	0.09721	Waste (K&M)	Waste (K&M)
25	195	0.105	8.2	3491	0.03444	1202.23	1034.665	190	0.09901	Waste (K&M)	Waste (K&M)
26	205	0.105	8.2	3603.6	0.03433	1267.86	1064.286	200	0.09707	Waste (K&M)	Waste (K&M)
27	215	0.105	8.299999	3830.8	0.03465	1327.3	1093.872	210	0.09534	Waste (K&M)	Waste (K&M)
28	224	0.12	7.7	2129.4	0.06476	1378.98	755.9028	220	0.0975	Clay PI=22	Clay PI=22
29	231.5	0.125	7	2038	0.06951	1416.55	724.8611	228	0.10164	EPRI 51-120'	EPRI 51-120'
30	240	0.127	8.5	1907.6	0.07521	1434.84	695.4370	235	0.10534	Clay PI=19	Clay PI=19
31	250	0.127	8.299999	2073.8	0.07066	1469.4	725.0844	245	0.10991	Clay PI=19	Clay PI=19
32	260	0.127	8.4	2143.3	0.07333	1571.79	737.1699	255	0.11908	Clay PI=19	Clay PI=19
33	270	0.127	8.6	2084	0.08033	1673.97	726.9005	265	0.12615	Clay PI=19	Clay PI=19
34	280	0.127	6.4	2660.4	0.06148	1758.52	851.6074	275	0.13145	EPRI 51-120'	EPRI 51-120'
35	290	0.127	6.8	2785.9	0.06676	1850.77	840.4441	285	0.1334	EPRI 51-120'	EPRI 51-120'
36	300	0.127	7	2724.9	0.07141	1945.79	831.102	295	0.13326	EPRI 51-120'	EPRI 51-120'
37	317.5	0.127	5.5	3047.6	0.06556	2049.55	870.0328	305	0.13008	EPRI 121-250	EPRI 121-250
38	345	0.127	4.8	3857.4	0.05493	2118.75	988.9479	330	0.11341	EPRI 121-250	EPRI 121-250
39	375	0.128	4.3	4628.8	0.04976	2164.22	1079.069	360	0.12827	EPRI 121-250	EPRI 121-250
40	405	0.128	4.2	4809.9	0.04516	2172.33	1099.996	390	0.13199	EPRI 121-250	EPRI 121-250
41	430	0.128	2	14244.6	0.01606	2287.1	1892.989	420	0.12882	EPRI 251-500	EPRI 251-500
42	460	0.128	3.1	6859	0.03467	2377.8	1313.57	440	0.1212	EPRI 251-500	EPRI 251-500
43	505	0.129	3.1	6881.8	0.03575	2460.14	1310.642	480	0.1203	EPRI 251-500	EPRI 251-500
44	560	0.129	2.8	9000.4	0.02862	2620.23	1506.346	530	0.12333	EPRI 251-500	EPRI 251-500
45	632.5	0.13	2.8	9369.5	0.02921	2736.67	1523.402	590	0.13382	EPRI 251-500	EPRI 251-500
46	725	0.131	1.8	11677.5	0.02582	3015.3	1694.21	675	0.13243	EPRI501-1000	EPRI501-1000
47	835	0.132	1.8	12987.4	0.02584	3355.92	1779.927	775	0.12039	EPRI501-1000	EPRI501-1000
48	982.5	0.133	1.8	14054.5	0.02636	3705.14	1844.832	895	0.10962	EPRI501-1000	EPRI501-1000
49	1105	0.135	1.2	24077.7	0.01557	3747.75	2396.451	1030	0.11054	EPRI501-1000	EPRI501-1000
50	Base							1180	0.123		

Run 0202p; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.181 g
Amax =	.181 g
CSR Max =	0.115
CSR Min =	0.039

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.115
10	600.0	0.112
15	1,000.0	0.107
20	1,400.0	0.102
25	1,800.0	0.097
30	2,200.0	0.093
35	2,600.0	0.089
40	3,000.0	0.085
45	3,425.0	0.081
50	3,875.0	0.078
60	4,650.0	0.079
70	5,450.0	0.079
80	6,038.0	0.082
90	6,314.0	0.087
100	6,590.0	0.089
110	6,866.0	0.089
120	7,142.0	0.088
130	7,418.0	0.086
140	7,769.0	0.082
150	8,195.0	0.083
160	8,621.0	0.082
170	9,047.0	0.080
180	9,473.0	0.078
190	9,869.0	0.076
200	10,325.0	0.076
210	10,751.0	0.077
220	11,177.0	0.077
228	11,620.4	0.077
235	12,069.9	0.076
245	12,612.0	0.074
255	13,258.0	0.072
265	13,904.0	0.073
275	14,550.0	0.075
285	15,196.0	0.076
295	15,842.0	0.078
305	16,488.0	0.077
330	17,816.5	0.075
360	19,395.0	0.071
390	21,348.0	0.066
420	23,316.0	0.061
440	24,956.0	0.060
480	26,924.0	0.057
530	29,901.0	0.053
590	33,564.0	0.051
675	38,435.0	0.046
775	44,738.0	0.044
895	52,344.0	0.042
1030	61,285.5	0.039
1180	71,496.0	0.034





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.39 sec
Average Shear Wave Velocity for Soil Column: 1458 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\HWRDCH334_19.EQ

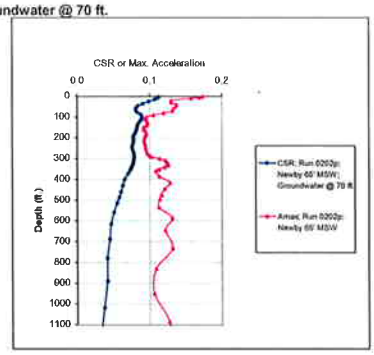
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

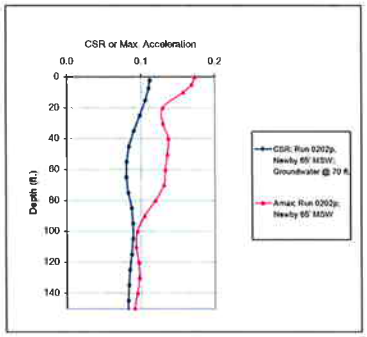
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	5.1	457.6	0.00755	34.53	429.1967	0	0.17306	Waste (K&M)	Waste (K&M)
2	7.5	0.08	6.9	494.6	0.02066	102.16	446.1799	5	0.1688	Waste (K&M)	Waste (K&M)
3	15	0.08	6.2	579.5	0.0339	196.44	482.6583	10	0.15761	Waste (K&M)	Waste (K&M)
4	25	0.08	8.900001	673.3	0.04503	303.16	520.5797	20	0.12957	Waste (K&M)	Waste (K&M)
5	35	0.08	9.099999	804.9	0.04833	389	566.1856	30	0.12075	Waste (K&M)	Waste (K&M)
6	45	0.08	9.2	917.7	0.05044	462.92	607.7617	40	0.13732	Waste (K&M)	Waste (K&M)
7	55	0.08	9.4	1037.7	0.05246	544.42	648.2772	50	0.13585	Waste (K&M)	Waste (K&M)
8	65	0.08	9.6	1129.4	0.05694	638.71	674.2281	60	0.13269	Waste (K&M)	Waste (K&M)
9	75	0.08	9.6	1263.5	0.05716	722.17	713.1331	70	0.13108	Waste (K&M)	Waste (K&M)
10	85	0.09	9.3	1550.2	0.05112	792.52	744.7329	80	0.11949	Waste (K&M)	Waste (K&M)
11	95	0.09	9.2	1675.9	0.05063	848.46	774.3383	90	0.10509	Waste (K&M)	Waste (K&M)
12	105	0.09	9.099999	1808.9	0.04898	886.1	804.4776	100	0.09499	Waste (K&M)	Waste (K&M)
13	115	0.09	9	1946.6	0.04661	907.39	834.5359	110	0.09352	Waste (K&M)	Waste (K&M)
14	125	0.09	8.8	2089.5	0.04386	916.8	864.6252	120	0.09656	Waste (K&M)	Waste (K&M)
15	135	0.09	8.8	2186.6	0.04279	935.8	884.5474	130	0.09745	Waste (K&M)	Waste (K&M)
16	145	0.09	8.7	2337.4	0.0411	960.57	914.4778	140	0.09614	Waste (K&M)	Waste (K&M)
17	155	0.09	8.6	2439.8	0.04056	989.68	934.2945	150	0.0912	Waste (K&M)	Waste (K&M)
18	165	0.09	8.6	2598.7	0.03903	1014.32	964.2301	160	0.09174	Waste (K&M)	Waste (K&M)
19	175	0.09	8.4	2763.3	0.03733	1031.44	994.3075	170	0.09453	Waste (K&M)	Waste (K&M)
20	185	0.105	8	3367.6	0.0311	1047.21	1016.234	180	0.09528	Waste (K&M)	Waste (K&M)
21	195	0.105	8	3500.1	0.0309	1081.66	1036.033	190	0.09406	Waste (K&M)	Waste (K&M)
22	205	0.105	8	3703.4	0.03077	1139.47	1065.607	200	0.09264	Waste (K&M)	Waste (K&M)
23	215	0.105	8	3841.2	0.03059	1190.47	1085.342	210	0.0922	Waste (K&M)	Waste (K&M)
24	225	0.105	8	3982.2	0.03067	1233.11	1105.083	220	0.0928	Waste (K&M)	Waste (K&M)
25	237.5	0.105	7.900001	4200.4	0.03036	1275.42	1134.955	230	0.09324	Waste (K&M)	Waste (K&M)
26	252.5	0.105	7.900001	4422.4	0.03041	1344.71	1164.561	245	0.09417	Waste (K&M)	Waste (K&M)
27	267.5	0.105	8	4647	0.03127	1452.9	1193.767	260	0.09508	Waste (K&M)	Waste (K&M)
28	279	0.12	7.7	2359.7	0.06504	1534.60	795.73	275	0.09668	Clay PI=22	Clay PI=22
29	286.5	0.125	7.3	2058.6	0.07711	1587.3	728.1961	283	0.09626	EPRI 51-120'	EPRI 51-120'
30	295	0.127	8.900001	1901	0.06704	1654.74	694.252	290	0.10188	Clay PI=19	Clay PI=19
31	305	0.127	8.8	2050.9	0.06396	1722.52	721.1047	300	0.11376	Clay PI=19	Clay PI=19
32	315	0.127	8.6	2138.2	0.0638	1791.9	736.2922	310	0.12223	Clay PI=19	Clay PI=19
33	325	0.127	9	2099.4	0.06821	1852.01	729.5812	320	0.12477	Clay PI=19	Clay PI=19
34	335	0.127	6.7	2908.5	0.06516	1895.93	858.7379	330	0.12806	EPRI 51-120'	EPRI 51-120'
35	345	0.127	6.8	2875.4	0.06747	1940.11	853.8375	340	0.12082	EPRI 51-120'	EPRI 51-120'
36	355	0.127	6.9	2847.8	0.06945	1977.66	849.7297	350	0.11342	EPRI 51-120'	EPRI 51-120'
37	372.5	0.127	5.3	3225.6	0.06237	2011.69	904.3392	360	0.10831	EPRI 121-250	EPRI 121-250
38	400	0.127	4.5	4093.4	0.05018	2053.31	1018.751	385	0.11343	EPRI 121-250	EPRI 121-250
39	430	0.128	4.3	4718.5	0.04602	2171.32	1088.471	415	0.12798	EPRI 121-250	EPRI 121-250
40	460	0.128	4.2	4955.4	0.04562	2265.59	1116.509	445	0.1208	EPRI 121-250	EPRI 121-250
41	465	0.128	2	14540.1	0.016	2326.42	1912.623	475	0.11625	EPRI 251-500	EPRI 251-500
42	515	0.128	3.1	6076.8	0.03391	2365.29	1324.707	495	0.11413	EPRI 251-500	EPRI 251-500
43	580	0.129	3.1	7021.8	0.03419	2400.86	1323.906	535	0.11256	EPRI 251-500	EPRI 251-500
44	615	0.129	2.7	9305.1	0.02658	2473.45	1524.03	585	0.13116	EPRI 251-500	EPRI 251-500
45	667.5	0.13	2.8	9518.8	0.02847	2709.83	1535.491	645	0.12189	EPRI 251-500	EPRI 251-500
46	780	0.131	1.7	11870.7	0.0244	2896.26	1708.168	730	0.1317	EPRI501-1000	EPRI501-1000
47	890	0.132	1.6	13110.1	0.02615	3426.27	1788.315	830	0.10901	EPRI501-1000	EPRI501-1000
48	1017.5	0.133	1.7	14275.2	0.0249	3554.27	1859.059	950	0.10637	EPRI501-1000	EPRI501-1000
49	1160	0.135	1.2	24128.9	0.01493	3602.49	2398.998	1085	0.12675	EPRI501-1000	EPRI501-1000
50	Base							1235	0.12843		

Run 0202p; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.173 g
Amax =	.173 g
CSR Max =	0.112
CSR Min =	0.037

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.112
10	600.0	0.111
20	1,200.0	0.106
30	2,000.0	0.099
40	2,800.0	0.090
50	3,600.0	0.084
60	4,400.0	0.080
70	5,200.0	0.080
80	5,888.0	0.083
90	5,914.0	0.087
100	6,100.0	0.089
110	6,466.0	0.088
120	6,742.0	0.087
130	7,018.0	0.085
140	7,294.0	0.083
150	7,570.0	0.082
160	7,846.0	0.082
170	8,122.0	0.081
180	8,398.0	0.080
190	8,749.0	0.078
200	9,175.0	0.077
210	9,601.0	0.077
220	10,027.0	0.077
230	10,453.0	0.077
245	10,965.5	0.075
260	11,624.5	0.075
275	12,263.5	0.077
283	12,813.4	0.078
290	13,262.9	0.078
300	13,605.0	0.078
310	14,451.0	0.077
320	15,097.0	0.077
330	15,743.0	0.076
340	16,389.0	0.075
350	17,035.0	0.074
360	17,881.0	0.073
385	18,811.5	0.070
415	20,586.0	0.065
445	22,541.0	0.063
475	24,509.0	0.060
495	26,149.0	0.058
535	28,117.0	0.055
585	31,094.0	0.050
645	34,757.0	0.046
730	39,628.0	0.044
830	45,931.0	0.041
950	53,537.0	0.042
1085	62,478.5	0.037
1235	72,889.0	0.032





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 CRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.353 g
Max EQ PGA for All Soil Profiles =	.367 g
Min EQ PGA for All Soil Profiles =	.293 g

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.88 sec
Average Shear Wave Velocity for Soil Column: 1395 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\20041049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

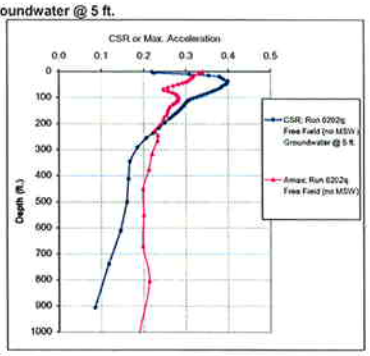
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3	637.2	0.009	57.34	426.1148	0	0.33692	Clay PI=30	Clay PI=30
2	5	0.113	5.4	531.7	0.03672	195.25	389.2441	3	0.33757	Clay PI=30	Clay PI=30
3	9.5	0.113	7.2	434	0.08828	374.44	351.6886	7	0.33035	Clay PI=30	Clay PI=30
4	14.5	0.113	8.2	452.4	0.12561	568.27	359.0459	12	0.31887	Clay PI=30	Clay PI=30
5	18.5	0.12	10.5	415.1	0.1764	732.23	333.7442	17	0.31818		
6	22.5	0.113	8	739.9	0.117	865.7	450.1718	20	0.31487	Clay PI=30	Clay PI=30
7	29	0.125	7.8	1244	0.08915	1109.08	568.0809	25	0.31225	Sand Upper	Sand lower
8	35.5	0.127	11	828.3	0.16766	1388.77	458.2684	33	0.30077	Clay PI=19	Clay PI=19
9	40.5	0.127	11.3	887.2	0.18258	1583.4	468.9059	38	0.29964	Clay PI=19	Clay PI=19
10	45.5	0.127	11.9	827	0.21437	1772.91	457.9086	43	0.2911	Clay PI=19	Clay PI=19
11	50.5	0.127	11.8	927.2	0.21017	1948.58	484.856	48	0.28050	Clay PI=19	Clay PI=19
12	56.5	0.125	10.9	1166.5	0.18339	2139.31	548.17	53	0.26987	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	13	796.9	0.29404	2343.21	449.4982	60	0.2509	Clay PI=19	Clay PI=19
14	67.5	0.127	12.7	914.3	0.2718	2485.07	481.4713	65	0.24618	Clay PI=19	Clay PI=19
15	72.5	0.127	12.9	912.9	0.28668	2619.03	481.1026	70	0.24778	Clay PI=19	Clay PI=19
16	77.5	0.127	13.2	873.5	0.31404	2743.03	470.5061	75	0.25821	Clay PI=19	Clay PI=19
17	82.5	0.127	13.1	944.9	0.3018	2851.74	489.462	80	0.26792	Clay PI=19	Clay PI=19
18	87.5	0.127	13.3	912.5	0.32384	2954.9	480.9972	85	0.2747	Clay PI=19	Clay PI=19
19	92.5	0.127	13.5	888.3	0.34331	3049.78	474.5761	90	0.2794	Clay PI=19	Clay PI=19
20	97.5	0.127	13.7	866.6	0.36212	3137.97	468.7437	95	0.28194	Clay PI=19	Clay PI=19
21	102.5	0.127	12.6	1273.3	0.25163	3206.46	568.1872	100	0.2823	Clay PI=19	Clay PI=19
22	107.5	0.127	12.4	1342.9	0.24488	3288.58	583.5095	105	0.28189	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	12.8	1306.8	0.25865	3382.1	575.569	110	0.28	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	12.9	1266.7	0.27538	3468.12	566.7127	115	0.27666	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	13.2	1224.1	0.29421	3601.35	557.1017	120	0.27278	EPRI 51-120'	EPRI 51-120'
26	130	0.127	10.8	1546.9	0.24407	3780.47	626.6683	125	0.26828	EPRI 121-250	EPRI 121-250
27	140	0.127	11.3	1467.2	0.27291	4004.17	609.917	135	0.26150	EPRI 121-250	EPRI 121-250
28	150	0.127	11.8	1393.6	0.30168	4203.75	594.4011	145	0.25743	EPRI 121-250	EPRI 121-250
29	160	0.127	12.3	1329.9	0.32867	4373.85	580.6783	155	0.25583	EPRI 121-250	EPRI 121-250
30	170	0.127	10	2235.4	0.20263	4529.49	762.8417	165	0.25366	EPRI 121-250	EPRI 121-250
31	180	0.127	9.700001	2452.7	0.18975	4654.16	788.5848	175	0.24872	EPRI 121-250	EPRI 121-250
32	195	0.127	10	2380	0.20282	4827.21	776.8096	185	0.24604	EPRI 121-250	EPRI 121-250
33	215	0.128	10.3	2329.1	0.21656	5043.9	765.4503	205	0.23704	EPRI 121-250	EPRI 121-250
34	235	0.128	9.9	2629	0.1979	5202.89	813.2391	225	0.22664	EPRI 121-250	EPRI 121-250
35	255	0.128	3.7	10669.3	0.04902	5230.27	1638.291	245	0.2335	EPRI 251-500	EPRI 251-500
36	290	0.128	6.4	4551.1	0.11735	5340.8	1069.994	265	0.23272	EPRI 251-500	EPRI 251-500
37	345	0.129	6	5265.5	0.10931	5756	1146.444	315	0.21845	EPRI 251-500	EPRI 251-500
38	412.5	0.13	5.9	6370	0.10649	6783.4	1256.105	375	0.21224	EPRI 251-500	EPRI 251-500
39	500	0.131	4.1	8578.4	0.09442	8099.52	1452.096	450	0.19855	EPRI501-1000	EPRI501-1000
40	610	0.132	4.2	9421	0.09617	9060.27	1515.986	550	0.20023	EPRI501-1000	EPRI501-1000
41	737.5	0.133	3.9	10758.8	0.08250	8885.74	1613.927	670	0.19806	EPRI501-1000	EPRI501-1000
42	905	0.135	2.2	22214.2	0.03615	8029.71	2301.847	805	0.21277	EPRI501-1000	EPRI501-1000
43	Base							1005	0.18848		

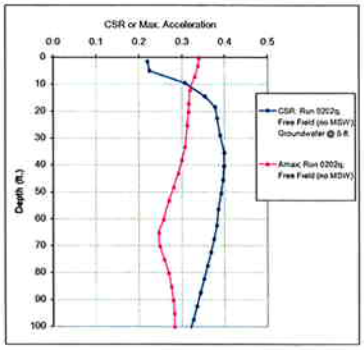
U. Wt. of Water =	62.4 pcf

Run 0202q; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth =	5.0 ft.
PGA =	.339 g
Amax =	.339 g
CSR Max =	0.399
CSR Min =	0.085

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	189.5	0.220
7	565.0	0.225
12	792.7	0.307
17	1,045.7	0.353
20	1,258.6	0.378
25	1,471.5	0.382
33	1,848.4	0.390
38	2,260.3	0.399
43	2,583.3	0.398
48	2,998.3	0.397
53	3,229.3	0.392
60	3,609.9	0.385
65	3,960.5	0.382
70	4,313.6	0.374
75	4,636.6	0.367
80	4,959.5	0.360
85	5,282.5	0.351
90	5,605.5	0.343
95	5,928.5	0.334
100	6,261.5	0.326
105	6,574.5	0.317
110	6,897.5	0.310
115	7,220.5	0.304
120	7,543.5	0.301
125	7,866.5	0.298
135	8,351.0	0.294
145	8,997.0	0.289
155	9,643.0	0.283
165	10,289.0	0.276
175	10,935.0	0.269
185	11,581.0	0.261
205	12,550.0	0.250
225	13,852.0	0.237
245	15,164.0	0.223
265	16,476.0	0.206
315	18,772.0	0.185
375	22,410.0	0.167
450	26,943.0	0.164
550	32,908.0	0.160
670	40,514.0	0.145
805	49,456.6	0.117
1005	61,481.0	0.085





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.92 sec
Average Shear Wave Velocity for Soil Column: 1387 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\20041049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

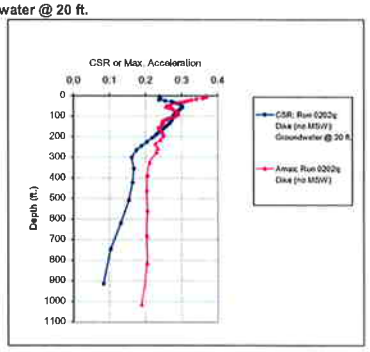
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

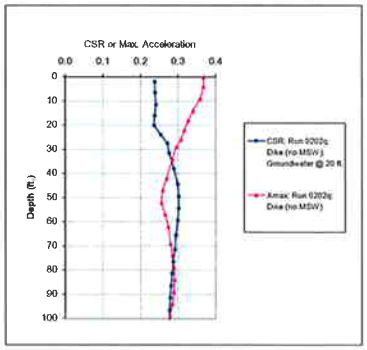
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	2.5	1731.3	0.00507	87.84	881.5905	0	0.36715	Clay PI=22	Clay PI=22
2	6.5	0.12	7.4	488.7	0.05867	286.69	362.125	4	0.36654	Clay PI=22	Clay PI=22
3	11.5	0.12	10	365.1	0.14048	512.9	312.9992	9	0.35808	Clay PI=22	Clay PI=22
4	16	0.113	9.700001	323.9	0.2156	698.37	303.8045	14	0.33984	Clay PI=30	Clay PI=30
5	20	0.113	10.7	286.1	0.20949	856.98	285.5273	18	0.32693	Clay PI=30	Clay PI=30
6	24	0.113	10.2	305	0.25323	1000.35	335.4659	22	0.31563	Clay PI=30	Clay PI=30
7	27.5	0.12	13.9	284.8	0.4035	1149.2	276.4441	26	0.30729		
8	31.5	0.113	9.5	617	0.20306	1258.38	419.3062	29	0.29506	Clay PI=30	Clay PI=30
9	38	0.125	9.700001	932.4	0.15883	1480.94	490.088	34	0.28445	Sand Upper	Sand lower
10	44.5	0.127	12.4	706.3	0.24388	1722.55	423.1757	42	0.26929	Clay PI=19	Clay PI=19
11	49.5	0.127	12.9	652.5	0.28927	1887.83	406.7385	47	0.25921	Clay PI=19	Clay PI=19
12	54.5	0.127	13.5	607.3	0.33592	2039.9	392.3688	52	0.25541	Clay PI=19	Clay PI=19
13	59.5	0.127	13.2	689.9	0.31479	2171.87	418.2338	57	0.26488	Clay PI=19	Clay PI=19
14	65.5	0.125	11.7	1085.1	0.21217	2302.17	528.8982	62	0.27375	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	13.3	754.5	0.32543	2455.28	437.3767	69	0.27017	Clay PI=19	Clay PI=19
16	76.5	0.127	13	681.9	0.29057	2562.52	472.8635	74	0.28457	Clay PI=19	Clay PI=19
17	81.5	0.127	13.1	889.7	0.30047	2673.21	474.05	79	0.28872	Clay PI=19	Clay PI=19
18	86.5	0.127	13.3	858.5	0.32531	2786.35	466.0041	84	0.29015	Clay PI=19	Clay PI=19
19	91.5	0.127	13.2	928.6	0.31239	2900.67	485.2219	89	0.2887	Clay PI=19	Clay PI=19
20	96.5	0.127	13.4	880.6	0.33716	3023.12	476.7881	94	0.28481	Clay PI=19	Clay PI=19
21	101.5	0.127	13.7	857.2	0.3531	3148.8	468.9059	99	0.27801	Clay PI=19	Clay PI=19
22	106.5	0.127	14	839.7	0.36988	3273.96	461.4112	104	0.27015	Clay PI=19	Clay PI=19
23	111.5	0.127	12.8	1217.4	0.27892	3395.58	555.575	109	0.26189	Clay PI=19	Clay PI=19
24	116.5	0.127	13	1256.3	0.27964	3513.18	564.3815	114	0.25584	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	13.3	1209.1	0.29981	3625.05	553.6779	119	0.24945	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	13.7	1163.3	0.32067	3730.36	543.0901	124	0.24543	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	14	1119.4	0.34204	3828.7	532.7442	129	0.24706	EPRI 51-120'	EPRI 51-120'
28	139	0.127	11.4	1460.3	0.27195	3971.18	608.4811	134	0.24707	EPRI 121-250	EPRI 121-250
29	149	0.127	11.8	1397.6	0.29551	4129.99	595.2748	144	0.24281	EPRI 121-250	EPRI 121-250
30	159	0.127	12.2	1344.5	0.31781	4272.88	583.857	154	0.2349	EPRI 121-250	EPRI 121-250
31	169	0.127	12.5	1298.2	0.33945	4406.75	573.7159	164	0.23745	EPRI 121-250	EPRI 121-250
32	179	0.127	10	2224.3	0.20248	4503.79	760.9703	174	0.24531	EPRI 121-250	EPRI 121-250
33	189	0.127	9.6	2457.8	0.18704	4596.94	789.4041	184	0.24848	EPRI 121-250	EPRI 121-250
34	204	0.127	9.9	2402.1	0.19621	4713.15	780.4078	194	0.24871	EPRI 121-250	EPRI 121-250
35	224	0.128	10.1	2380.2	0.20182	4803.9	773.8017	214	0.24051	EPRI 121-250	EPRI 121-250
36	244	0.128	9.5	2726.7	0.17746	4838.96	828.2122	234	0.22695	EPRI 121-250	EPRI 121-250
37	264	0.128	3.5	10863.9	0.04426	4810.52	1653.164	254	0.23306	EPRI 251-500	EPRI 251-500
38	299	0.128	6	4708.4	0.10648	5013.32	1088.328	274	0.22996	EPRI 251-500	EPRI 251-500
39	354	0.129	6.2	5166.4	0.11893	5144.48	1135.604	324	0.21045	EPRI 251-500	EPRI 251-500
40	421.5	0.13	6.1	6218.9	0.11526	7167.6	1241.118	384	0.20416	EPRI 251-500	EPRI 251-500
41	509	0.131	4.1	8542.6	0.09466	8086.12	1449.063	459	0.20227	EPRI501-1000	EPRI501-1000
42	619	0.132	4	9580.8	0.08832	8462.2	1528.769	559	0.20452	EPRI501-1000	EPRI501-1000
43	749.5	0.133	3.8	11060.7	0.073	8074.48	1638.415	679	0.20208	EPRI501-1000	EPRI501-1000
44	914	0.135	2.2	22259.4	0.03606	8027.27	2304.187	814	0.20351	EPRI501-1000	EPRI501-1000
45	Base							1014	0.18851		

Run 0202q; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth =	20.0 ft.
PGA =	.367 g
Amax =	.367 g
CSR Max =	0.302
CSR Min =	0.083

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.238
9	780.0	0.239
14	1,380.0	0.242
18	1,906.0	0.238
22	2,356.0	0.236
26	2,660.4	0.254
29	2,748.0	0.272
34	2,960.9	0.276
42	3,337.8	0.288
47	3,749.7	0.299
52	4,072.7	0.301
57	4,395.7	0.302
62	4,718.7	0.299
69	5,090.3	0.293
74	5,479.9	0.291
79	5,802.9	0.287
84	6,125.9	0.284
89	6,448.9	0.281
94	6,771.9	0.278
99	7,094.9	0.277
104	7,417.9	0.276
109	7,740.9	0.275
114	8,063.9	0.274
119	8,386.9	0.272
124	8,709.9	0.271
129	9,032.9	0.268
134	9,355.9	0.266
144	9,840.4	0.262
154	10,496.4	0.256
164	11,132.4	0.249
174	11,778.4	0.243
184	12,424.4	0.236
194	13,070.4	0.229
214	14,038.4	0.218
234	15,341.4	0.204
254	16,653.4	0.189
274	17,965.4	0.174
324	20,201.4	0.161
384	23,899.4	0.167
459	28,432.4	0.164
559	34,397.4	0.153
679	42,003.4	0.131
814	50,944.9	0.103
1014	62,870.4	0.083





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.98 sec
Average Shear Wave Velocity for Soil Column: 1385 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

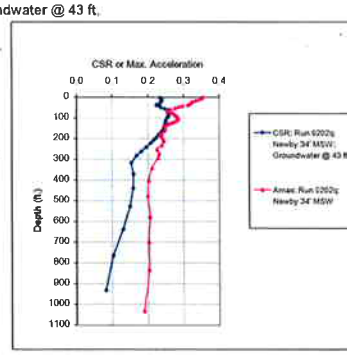
No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

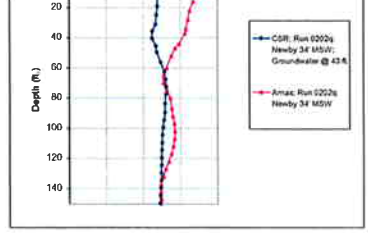
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.3	454.5	0.01581	71.85	427.7105	0	0.35403	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.8	507.7	0.0432	219.34	452.0501	5	0.35157	Waste (K&M)	Waste (K&M)
3	13	0.08	10.3	539.7	0.07075	381.84	466.0788	10	0.34549	Waste (K&M)	Waste (K&M)
4	19	0.08	11.2	599.7	0.09259	555.29	491.3038	16	0.33464	Waste (K&M)	Waste (K&M)
5	25	0.08	11.9	660.6	0.10964	724.35	515.6467	22	0.32554	Waste (K&M)	Waste (K&M)
6	31	0.08	12.3	727.9	0.12196	867.95	541.2761	28	0.32071	Waste (K&M)	Waste (K&M)
7	35.5	0.12	8.299999	1240.7	0.08056	1000.74	576.8932	34	0.3151	Clay PI=22	Clay PI=22
8	40.5	0.113	9.9	511.7	0.23337	1194.27	381.8532	37	0.31265	Clay PI=30	Clay PI=30
9	45.5	0.12	14.4	301.4	0.46405	1398.53	284.3865	44	0.29659		
10	49.5	0.113	9.5	720.8	0.20705	1492.45	463.2065	47	0.28574	Clay PI=30	Clay PI=30
11	56	0.125	9.8	1034.5	0.16456	1702.37	516.224	52	0.27641	Sand Upper	Sand lower
12	62.5	0.127	12.4	788.2	0.24403	1930.59	447.0378	60	0.26382	Clay PI=19	Clay PI=19
13	67.5	0.127	12.9	736.9	0.26315	2066.64	432.2464	65	0.25505	Clay PI=19	Clay PI=19
14	72.5	0.127	13.3	691.3	0.32275	2231.09	418.658	70	0.25388	Clay PI=19	Clay PI=19
15	77.5	0.127	13.1	785.9	0.3076	2358.31	440.6696	75	0.2545	Clay PI=19	Clay PI=19
16	83.5	0.125	11.5	1209	0.20539	2483.15	558.0667	80	0.27296	EPRI 51-120'	EPRI 51-120'
17	89.5	0.127	13.2	840.8	0.3129	2630.91	461.7133	87	0.27738	Clay PI=19	Clay PI=19
18	94.5	0.127	12.8	978.2	0.2794	2733.16	498.0121	92	0.2802	Clay PI=19	Clay PI=19
19	99.5	0.127	12.9	989.7	0.28867	2837.07	500.9309	97	0.28424	Clay PI=19	Clay PI=19
20	104.5	0.127	13.1	957.9	0.30717	2942.25	492.8176	102	0.28582	Clay PI=19	Clay PI=19
21	109.5	0.127	13	1014.9	0.30037	3048.56	507.2683	107	0.2848	Clay PI=19	Clay PI=19
22	114.5	0.127	13.3	981.7	0.32218	3162.86	498.9023	112	0.28145	Clay PI=19	Clay PI=19
23	119.5	0.127	13.5	952.7	0.34449	3281.85	491.4781	117	0.27629	Clay PI=19	Clay PI=19
24	124.5	0.127	13.8	923.9	0.36617	3401.64	483.9924	122	0.26933	Clay PI=19	Clay PI=19
25	129.5	0.127	12.7	1296.2	0.27156	3519.96	573.2738	127	0.28136	Clay PI=19	Clay PI=19
26	134.5	0.127	12.7	1376.2	0.26433	3634.93	590.4852	132	0.25481	EPRI 51-120'	EPRI 51-120'
27	139.5	0.127	13	1328.5	0.28189	3744.9	580.3726	137	0.24781	EPRI 51-120'	EPRI 51-120'
28	144.5	0.127	13.4	1282.6	0.30011	3849.19	570.2584	142	0.24097	EPRI 51-120'	EPRI 51-120'
29	149.5	0.127	13.7	1239.3	0.31847	3948.71	560.5499	147	0.24805	EPRI 51-120'	EPRI 51-120'
30	157	0.127	11.1	1569.4	0.25586	4092.84	636.8023	152	0.24031	EPRI 121-250	EPRI 121-250
31	167	0.127	11.5	1536.5	0.27674	4251.96	624.1548	162	0.24540	EPRI 121-250	EPRI 121-250
32	177	0.127	11.8	1483.1	0.29623	4393.24	613.2129	172	0.23825	EPRI 121-250	EPRI 121-250
33	187	0.127	12.1	1436.7	0.31509	4526.82	603.5443	182	0.23242	EPRI 121-250	EPRI 121-250
34	197	0.127	10	2309.2	0.20045	4626.83	765.1881	192	0.23063	EPRI 121-250	EPRI 121-250
35	207	0.127	9.8	2561.3	0.18444	4724.2	805.8539	202	0.24353	EPRI 121-250	EPRI 121-250
36	222	0.127	9.8	2602.9	0.19350	4845.27	796.6138	212	0.24468	EPRI 121-250	EPRI 121-250
37	242	0.128	10	2481.7	0.19919	4943.31	790.1282	232	0.23879	EPRI 121-250	EPRI 121-250
38	262	0.128	9.4	2834.4	0.1757	4980.01	844.4103	252	0.22564	EPRI 121-250	EPRI 121-250
39	282	0.128	3.5	11233.9	0.04399	4941.55	1681.079	272	0.23164	EPRI 251-500	EPRI 251-500
40	317	0.129	6	4913.6	0.10312	5067.06	1107.473	292	0.22903	EPRI 251-500	EPRI 251-500
41	372	0.129	6.1	5328.4	0.11587	5173.86	1163.271	342	0.21154	EPRI 251-500	EPRI 251-500
42	439.5	0.13	8.1	6316.4	0.1144	5226.24	1250.809	402	0.20256	EPRI 251-500	EPRI 251-500
43	527	0.131	4.1	8624	0.0949	5184.17	1455.951	477	0.19642	EPRI501-1000	EPRI501-1000
44	637	0.132	4	9745.1	0.08840	5623.91	1541.822	577	0.20595	EPRI501-1000	EPRI501-1000
45	764.5	0.133	3.6	11151.5	0.07384	6234.01	1643.118	697	0.20283	EPRI501-1000	EPRI501-1000
46	932	0.135	2.2	22237.8	0.03643	8101.2	2303.069	832	0.20328	EPRI501-1000	EPRI501-1000
47	Base							1032	0.18934		

Run 0202q; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.354 g
Amax =	.354 g
CSR Max =	0.262
CSR Min =	0.082

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.234
10	600.0	0.238
16	1,040.0	0.239
22	1,520.0	0.237
28	2,000.0	0.235
34	2,480.0	0.233
37	2,900.0	0.224
44	3,476.5	0.223
47	3,865.0	0.233
52	4,107.9	0.238
60	4,484.8	0.247
65	4,696.7	0.250
70	5,210.7	0.260
75	5,542.7	0.262
80	5,885.7	0.261
87	6,246.3	0.258
92	6,626.9	0.258
97	6,849.9	0.256
102	7,272.9	0.254
107	7,595.9	0.252
112	7,918.9	0.250
117	8,241.9	0.249
122	8,564.9	0.248
127	8,887.9	0.249
132	9,210.9	0.248
137	9,533.9	0.248
142	9,856.9	0.247
147	10,179.9	0.246
152	10,502.9	0.244
162	10,987.4	0.242
172	11,633.4	0.238
182	12,279.4	0.233
192	12,925.4	0.228
202	13,571.4	0.222
212	14,217.4	0.216
232	15,186.4	0.207
252	16,488.4	0.195
272	17,800.4	0.182
292	19,112.4	0.168
342	21,433.4	0.154
402	25,096.4	0.160
477	28,629.4	0.159
577	35,594.4	0.149
697	43,290.4	0.130
832	52,141.9	0.103
1032	64,167.4	0.082





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 3.04 sec
Average Shear Wave Velocity for Soil Column: 1382 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

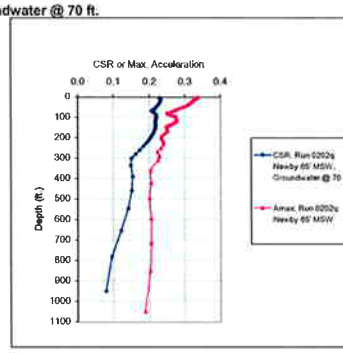
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

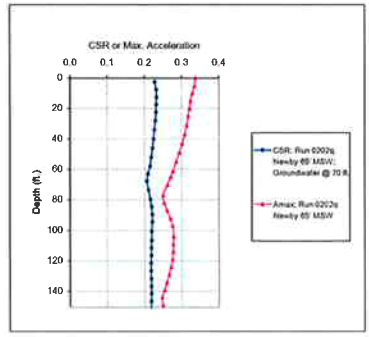
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	6.2	454.7	0.0154	70.04	427.8048	0	0.33771	Waste (K&M)	Waste (K&M)
2	7.5	0.08	8.900001	485.6	0.04407	214.01	442.1016	5	0.33537	Waste (K&M)	Waste (K&M)
3	12.5	0.08	10.1	541.7	0.06606	357.85	466.0414	10	0.32930	Waste (K&M)	Waste (K&M)
4	17.5	0.08	10.9	603.9	0.0827	499.4	493.0211	15	0.32383	Waste (K&M)	Waste (K&M)
5	22.5	0.08	11.5	642.8	0.0994	638.96	508.6522	20	0.32103	Waste (K&M)	Waste (K&M)
6	28	0.08	11.9	709.4	0.11112	788.29	534.3534	25	0.31808	Waste (K&M)	Waste (K&M)
7	34	0.08	12.4	750.8	0.12622	947.67	549.7245	31	0.31373	Waste (K&M)	Waste (K&M)
8	40	0.08	12.8	825.8	0.13342	1101.5	576.4581	37	0.30826	Waste (K&M)	Waste (K&M)
9	46	0.08	12.9	874	0.14316	1251.21	593.1147	43	0.30171	Waste (K&M)	Waste (K&M)
10	52	0.08	13.1	925	0.15089	1395.7	610.1742	49	0.29393	Waste (K&M)	Waste (K&M)
11	58	0.09	12.7	1116.7	0.13793	1540.15	632.0842	55	0.28531	Waste (K&M)	Waste (K&M)
12	63	0.12	10	1148.6	0.14468	1661.78	555.1646	61	0.27722	Clay PI=22	Clay PI=22
13	67.5	0.12	10.4	1086.7	0.16627	1810.17	540.4947	65	0.27103	Clay PI=22	Clay PI=22
14	73.5	0.125	12.7	689.5	0.29261	2017.45	421.4442	70	0.26269	Sand Upper	Sand lower
15	79.5	0.127	12.8	780.4	0.28123	2194.76	444.8204	77	0.25032	Clay PI=19	Clay PI=19
16	84.5	0.127	13.2	736.8	0.31672	2333.62	432.216	82	0.25269	Clay PI=19	Clay PI=19
17	89.5	0.127	13.6	703.6	0.34968	2480.38	422.366	87	0.26191	Clay PI=19	Clay PI=19
18	94.5	0.127	13.4	782	0.3288	2571.26	445.2762	92	0.27051	Clay PI=19	Clay PI=19
19	100.5	0.126	11.8	1231.3	0.21772	2680.72	583.1899	97	0.27635	EPRI 51-120'	EPRI 51-120'
20	106.5	0.127	13.5	831.4	0.33871	2816.01	459.1252	104	0.27821	Clay PI=19	Clay PI=19
21	111.5	0.127	13.1	968.2	0.30064	2910.62	495.46	109	0.27779	Clay PI=19	Clay PI=19
22	116.5	0.127	13.1	981.2	0.30985	3010.76	498.7752	114	0.27793	Clay PI=19	Clay PI=19
23	121.5	0.127	13.3	950.3	0.32786	3115.79	490.8586	119	0.27601	Clay PI=19	Clay PI=19
24	126.5	0.127	13.3	1005	0.3208	3224.11	504.7881	124	0.27187	Clay PI=19	Clay PI=19
25	131.5	0.127	13.5	978	0.34184	3338.28	497.4518	129	0.26683	Clay PI=19	Clay PI=19
26	136.5	0.127	13.7	948	0.36388	3447.77	490.2643	134	0.26088	Clay PI=19	Clay PI=19
27	141.5	0.127	13.9	923.1	0.38516	3555.31	483.7828	139	0.25451	Clay PI=19	Clay PI=19
28	146.5	0.127	12.7	1342.3	0.27266	3660.03	583.3791	144	0.24766	Clay PI=19	Clay PI=19
29	151.5	0.127	13	1306.9	0.27492	3756.04	588.7006	149	0.24965	EPRI 51-120'	EPRI 51-120'
30	156.5	0.127	13.2	1325.7	0.29051	3851.3	576.7806	154	0.25198	EPRI 51-120'	EPRI 51-120'
31	161.5	0.127	13.5	1296.7	0.30617	3939.42	571.1661	159	0.25254	EPRI 51-120'	EPRI 51-120'
32	166.5	0.127	13.7	1250	0.32184	4022.97	562.9646	164	0.25156	EPRI 51-120'	EPRI 51-120'
33	174	0.127	11.1	1629.6	0.25451	4147.62	642.7863	169	0.2495	EPRI 121-250	EPRI 121-250
34	184	0.127	11.4	1575.8	0.27214	4288.22	632.0867	179	0.24302	EPRI 121-250	EPRI 121-250
35	194	0.127	11.7	1528.1	0.28935	4421.38	622.4464	189	0.2348	EPRI 121-250	EPRI 121-250
36	204	0.127	12	1482.6	0.30641	4542.76	613.1096	199	0.23366	EPRI 121-250	EPRI 121-250
37	214	0.128	9.6	2477.7	0.18676	4627.39	786.4912	209	0.23821	EPRI 121-250	EPRI 121-250
38	224	0.128	9.4	2665.5	0.17669	4708.81	818.865	219	0.24063	EPRI 121-250	EPRI 121-250
39	239	0.128	9.6	2616	0.18366	4804.41	811.2259	229	0.24081	EPRI 121-250	EPRI 121-250
40	259	0.128	9.8	2573.4	0.18918	4867.77	804.5936	249	0.23386	EPRI 121-250	EPRI 121-250
41	279	0.128	9.2	2945.9	0.16535	4870.98	860.8588	269	0.2228	EPRI 121-250	EPRI 121-250
42	299	0.128	3.4	11425.6	0.0422	4821.62	1695.382	289	0.22857	EPRI 251-500	EPRI 251-500
43	334	0.128	6	4942.7	0.10716	5296.58	1115.078	309	0.22564	EPRI 251-500	EPRI 251-500
44	389	0.129	8.2	5368.1	0.11849	5360.65	1157.56	359	0.20405	EPRI 251-500	EPRI 251-500
45	456.5	0.13	8.1	6378.6	0.11475	5318.64	1258.953	419	0.20556	EPRI 251-500	EPRI 251-500
46	544	0.131	4.1	8761.1	0.0928	5130.71	1487.478	494	0.20185	EPRI501-1000	EPRI501-1000
47	654	0.132	3.9	9822.1	0.08531	5379.53	1547.901	594	0.2082	EPRI501-1000	EPRI501-1000
48	781.5	0.133	3.4	11440	0.06907	7901.96	1664.237	714	0.2059	EPRI501-1000	EPRI501-1000
49	949	0.135	2.2	22249.1	0.03628	8072.94	2303.654	849	0.20284	EPRI501-1000	EPRI501-1000
50	Base							1049	0.18895		

Run 0202q; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.338 g
Amax =	.338 g
CSR Max =	0.233
CSR Min =	0.095

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.228
10	600.0	0.232
15	1,000.0	0.233
20	1,400.0	0.232
25	1,800.0	0.231
31	2,240.0	0.229
37	2,720.0	0.228
43	3,200.0	0.224
49	3,680.0	0.221
55	4,160.0	0.218
61	4,670.0	0.214
65	5,180.0	0.209
70	5,720.0	0.206
77	6,239.1	0.210
82	6,619.7	0.216
87	6,942.7	0.218
92	7,265.7	0.220
97	7,588.7	0.220
104	7,969.3	0.219
109	8,349.9	0.219
114	8,672.9	0.218
119	8,995.9	0.218
124	9,318.9	0.217
129	9,641.9	0.217
134	9,964.9	0.216
139	10,287.9	0.216
144	10,610.9	0.216
149	10,933.9	0.216
154	11,256.9	0.217
159	11,579.9	0.216
164	11,902.9	0.215
169	12,225.9	0.214
179	12,710.4	0.212
189	13,356.4	0.209
199	14,002.4	0.205
209	14,648.4	0.202
219	15,294.4	0.197
229	15,655.4	0.192
249	16,939.4	0.184
269	18,251.4	0.173
289	19,563.4	0.162
309	20,875.4	0.150
359	23,171.4	0.140
419	26,609.4	0.154
494	31,342.4	0.152
594	37,307.4	0.142
714	44,913.4	0.121
849	53,854.9	0.095
1049	65,880.4	0.080





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3.11 sec
Average Shear Wave Velocity for Soil Column: 1369 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

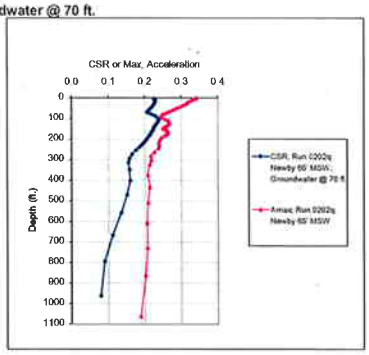
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.2	454.8	0.01512	68.76	427.8518	
2	8	0.08	8.900001	507.4	0.04408	223.64	451.9165	
3	14	0.08	10.3	562.8	0.06974	392.55	475.9485	
4	20	0.08	11.1	625	0.08038	568.65	501.5601	
5	26	0.08	11.7	688.6	0.1047	720.94	526.4613	
6	32	0.08	12.2	728.6	0.12073	879.62	541.5363	
7	38	0.08	12.5	801.8	0.12883	1032.87	568.0884	
8	44	0.08	12.8	849	0.13821	1181.88	584.5704	
9	50	0.09	12.4	1061.7	0.12537	1331.11	616.3218	
10	56	0.09	12.6	1121.3	0.13266	1487.78	633.3848	
11	62	0.09	12.7	1183.8	0.13842	1638.72	650.7976	
12	68	0.09	12.8	1249.3	0.14276	1783.43	668.5595	
13	74	0.09	12.9	1317.6	0.1456	1922.33	686.5916	
14	80	0.09	13	1388.7	0.14795	2054.52	704.873	
15	86	0.09	13	1462.6	0.14908	2180.32	723.3849	
16	92	0.09	13	1539.2	0.14945	2300.31	742.0859	
17	99.5	0.12	12.2	880.8	0.27945	2481.41	486.1564	
18	107.5	0.127	14.3	627.7	0.4238	2660.92	398.935	
19	114.5	0.125	13	990.4	0.26178	2790.66	605.101	
20	120.5	0.127	14.2	705.6	0.4127	2912.09	422.9659	
21	125.5	0.127	13.7	826	0.36248	2994.25	457.6317	
22	130.5	0.127	13.6	841.4	0.36586	3078.43	461.8781	
23	135.5	0.127	14	820.2	0.38574	3163.84	456.0222	
24	140.5	0.127	13.9	871.9	0.37286	3251.04	470.1749	
25	145.5	0.127	14.1	849.2	0.39385	3344.64	464.014	
26	150.5	0.127	14.3	827	0.41578	3438.52	457.9086	
27	155.5	0.127	14.4	805.9	0.43767	3529.59	452.0294	
28	160.5	0.127	13.1	1192.2	0.30333	3616.24	549.7948	
29	165.5	0.127	13.6	1204	0.30722	3698.96	552.509	
30	170.5	0.127	13.8	1170.6	0.32281	3778.86	544.7915	
31	175.5	0.127	14	1138.9	0.3386	3856.31	537.3644	
32	180.5	0.127	14.2	1108	0.35477	3930.82	530.0245	
33	188	0.127	11.5	1479.8	0.27187	4023.17	612.5303	
34	198	0.127	11.8	1430.1	0.29023	4150.48	602.1584	
35	208	0.127	12.1	1385.2	0.30781	4263.9	592.6282	
36	218	0.127	12.3	1346.6	0.32371	4359.08	584.3127	
37	228	0.127	9.9	2260.5	0.19291	4416.7	761.8872	
38	238	0.127	9.4	2554.8	0.17496	4470.53	804.8307	
39	253	0.127	9.5	2510.7	0.17979	4529.99	799.2828	
40	273	0.128	9.8	2530.8	0.17978	4549.9	797.6063	
41	293	0.128	8.900001	2918.6	0.16092	4698.52	858.8607	
42	313	0.128	3.4	11061.8	0.04426	4894.79	1668.153	
43	348	0.129	6.2	4723.9	0.11706	5572.43	1085.864	
44	403	0.129	6.5	6093	0.12791	6514.63	1127.509	
45	470.5	0.13	6.2	6256.8	0.11544	7228.34	1245.173	
46	558	0.131	4	8738.3	0.06846	7728.77	1405.567	
47	668	0.132	3.7	9930.7	0.07717	7663.43	1556.435	
48	795.5	0.133	3.2	11443.2	0.06452	7383.35	1864.47	
49	963	0.135	2.2	22261.7	0.03619	8057.34	2304.306	
50	Base							

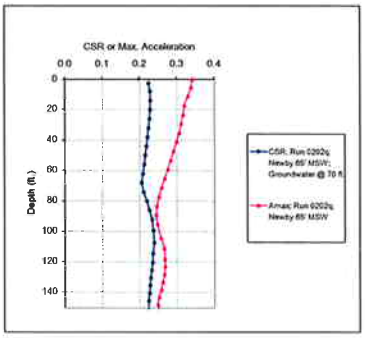
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.34054 Wasle (K&M)	Wasle (K&M)
5	0.33779 Wasle (K&M)	Wasle (K&M)
11	0.32877 Wasle (K&M)	Wasle (K&M)
17	0.31991 Wasle (K&M)	Wasle (K&M)
23	0.31609 Wasle (K&M)	Wasle (K&M)
29	0.31142 Wasle (K&M)	Wasle (K&M)
35	0.30567 Wasle (K&M)	Wasle (K&M)
41	0.29801 Wasle (K&M)	Wasle (K&M)
47	0.29101 Wasle (K&M)	Wasle (K&M)
53	0.28329 Wasle (K&M)	Wasle (K&M)
59	0.27495 Wasle (K&M)	Wasle (K&M)
65	0.26632 Wasle (K&M)	Wasle (K&M)
71	0.25822 Wasle (K&M)	Wasle (K&M)
77	0.25109 Wasle (K&M)	Wasle (K&M)
83	0.2456 Wasle (K&M)	Wasle (K&M)
89	0.2439 Wasle (K&M)	Wasle (K&M)
95	0.24736 Clay PI=22	Clay PI=22
104	0.25615 Clay PI=19	Clay PI=19
111	0.26491 EPRI 51-120'	EPRI 51-120'
118	0.26705 Clay PI=19	Clay PI=19
123	0.26715 Clay PI=19	Clay PI=19
128	0.26542 Clay PI=19	Clay PI=19
133	0.26189 Clay PI=19	Clay PI=19
138	0.25686 Clay PI=19	Clay PI=19
143	0.25149 Clay PI=19	Clay PI=19
148	0.24807 Clay PI=19	Clay PI=19
153	0.25316 Clay PI=19	Clay PI=19
158	0.26058 Clay PI=19	Clay PI=19
163	0.26318 EPRI 51-120'	EPRI 51-120'
168	0.26349 EPRI 51-120'	EPRI 51-120'
173	0.26166 EPRI 51-120'	EPRI 51-120'
178	0.25838 EPRI 51-120'	EPRI 51-120'
183	0.25397 EPRI 121-250	EPRI 121-250
193	0.24462 EPRI 121-250	EPRI 121-250
203	0.23989 EPRI 121-250	EPRI 121-250
213	0.23712 EPRI 121-250	EPRI 121-250
223	0.23823 EPRI 121-250	EPRI 121-250
233	0.23836 EPRI 121-250	EPRI 121-250
243	0.23853 EPRI 121-250	EPRI 121-250
263	0.2259 EPRI 121-250	EPRI 121-250
283	0.21588 EPRI 121-250	EPRI 121-250
303	0.2171 EPRI 251-500	EPRI 251-500
323	0.21335 EPRI 251-500	EPRI 251-500
373	0.20828 EPRI 251-500	EPRI 251-500
433	0.21291 EPRI 251-500	EPRI 251-500
508	0.20865 EPRI501-100C	EPRI501-1000
608	0.20619 EPRI501-100C	EPRI501-1000
728	0.20667 EPRI501-100C	EPRI501-1000
863	0.20198 EPRI501-100C	EPRI501-1000
1063	0.18861	

Run 0202q; Newby 95' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.341 g
Amax =	.341 g
CSR Max =	0.238
CSR Min =	0.090

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.223
11	640.0	0.227
17	1,120.0	0.228
23	1,600.0	0.227
29	2,080.0	0.225
35	2,560.0	0.223
41	3,040.0	0.221
47	3,520.0	0.218
53	4,030.0	0.215
59	4,570.0	0.212
65	5,110.0	0.208
71	5,650.0	0.205
77	5,940.4	0.210
83	6,109.0	0.219
89	6,271.6	0.226
95	6,437.2	0.232
104	6,779.2	0.236
111	7,264.5	0.238
118	7,709.7	0.235
123	8,090.3	0.234
128	8,413.3	0.231
133	8,738.3	0.229
138	9,059.3	0.227
143	9,382.3	0.225
148	9,705.3	0.224
153	10,028.3	0.223
158	10,351.3	0.222
163	10,674.3	0.220
168	10,997.3	0.219
173	11,320.3	0.217
178	11,643.3	0.215
183	11,966.3	0.214
193	12,450.8	0.210
203	13,096.8	0.206
213	13,742.8	0.202
223	14,388.8	0.197
233	15,034.8	0.191
243	15,680.8	0.185
263	16,849.8	0.177
283	17,951.8	0.165
303	19,293.8	0.158
323	20,575.8	0.155
373	22,898.8	0.158
433	26,558.8	0.159
508	31,002.8	0.151
608	37,057.8	0.136
728	44,663.8	0.112
863	53,605.3	0.090
1063	65,630.8	0.080





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.36 sec
Average Shear Wave Velocity for Soil Column: 1322 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

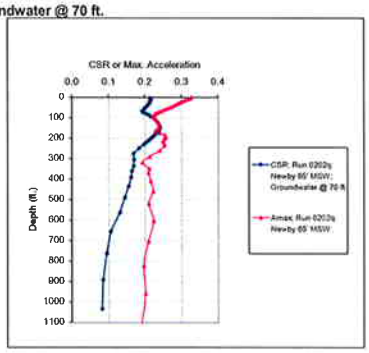
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	8.1	455	0.01432	65.18	427.9457	
2	7.5	0.08	8.7	466.5	0.04074	196.19	442.5113	
3	12.5	0.08	9.9	544.1	0.0606	330.84	467.9746	
4	17.5	0.08	10.8	606.6	0.07609	461.57	494.1219	
5	22.5	0.08	11.2	649.4	0.001	590.05	510.863	
6	27.5	0.08	11.5	717.2	0.09969	714.98	537.253	
7	32.5	0.08	11.9	761.5	0.10997	837.38	553.6278	
8	37.5	0.08	12.2	808.7	0.11823	956.08	570.5278	
9	42.5	0.08	12.4	868.6	0.1248	1071.46	587.8661	
10	47.5	0.09	12	1038.8	0.11434	1187.8	609.6389	
11	52.5	0.09	12.2	1100.1	0.11907	1309.78	627.3689	
12	57.5	0.09	12.4	1126	0.12689	1428.78	634.7108	
13	62.5	0.09	12.5	1191.6	0.12951	1543.26	652.938	
14	67.5	0.09	12.6	1259.9	0.13124	1653.44	671.3868	
15	72.5	0.09	12.6	1330.8	0.13225	1759.98	690.0222	
16	77.5	0.09	12.7	1382.6	0.1367	1862.68	696.2177	
17	82.5	0.09	12.7	1437.6	0.13642	1961.13	717.1759	
18	87.5	0.09	12.8	1471.9	0.13967	2055.9	725.8812	
19	93	0.09	12.8	1550.2	0.13904	2155.4	744.7329	
20	99	0.09	12.8	1630.3	0.13854	2258.7	763.7311	
21	105	0.09	12.7	1713.1	0.13782	2357.45	782.8851	
22	111	0.09	12.8	1751.4	0.14001	2452.13	791.5883	
23	117	0.09	12.7	1838.2	0.1383	2542.27	810.9667	
24	123	0.09	12.7	1927.8	0.13836	2628.43	830.4531	
25	130	0.09	12.7	1968.4	0.13851	2720.42	839.1959	
26	138	0.09	12.7	2059.3	0.13758	2633.15	858.3541	
27	148	0.09	12.7	2152.8	0.1364	2936.33	877.6241	
28	154	0.12	12.8	906.8	0.3357	3054.71	494.122	
29	161.5	0.125	15.8	627.9	0.50869	3201.74	402.1779	
30	170	0.127	14.7	707.4	0.47025	3326.58	423.5051	
31	180	0.127	14.5	777.2	0.44684	3472.83	443.9075	
32	190	0.127	14.5	816.1	0.44182	3605.51	454.881	
33	200	0.127	14.8	786.8	0.47326	3723.42	446.6407	
34	210	0.127	14.1	1120.9	0.34068	3818.66	533.101	
35	220	0.127	14.2	1132.5	0.34481	3902.78	535.8524	
36	230	0.127	14.5	1094.3	0.36265	3968.53	529.7375	
37	247.5	0.127	11.6	1490.7	0.26997	4024.47	614.782	
38	275	0.127	9.8	2177.3	0.19062	4154.64	742.0938	
39	305	0.128	9.2	2658.9	0.17692	4704.23	817.8505	
40	335	0.128	9.5	2722.4	0.19001	5172.67	827.5589	
41	360	0.128	3.6	10980.6	0.0494	5424.86	1662.019	
42	390	0.128	6.5	4548.3	0.12692	5861.17	1099.429	
43	435	0.129	6.8	4520.1	0.13941	6301.61	1062.202	
44	490	0.129	6	6358.2	0.10573	6722.27	1256.706	
45	562.5	0.13	6	6614.8	0.10723	7092.76	1280.014	
46	655	0.131	3.5	9512.4	0.07079	6733.53	1529.105	
47	785	0.132	3.2	11019.2	0.0645	7106.95	1639.517	
48	892.5	0.133	3.1	12051.3	0.06267	7552.8	1706.123	
49	1035	0.135	2.2	22138.1	0.03874	8575.82	2297.9	
50	Base							

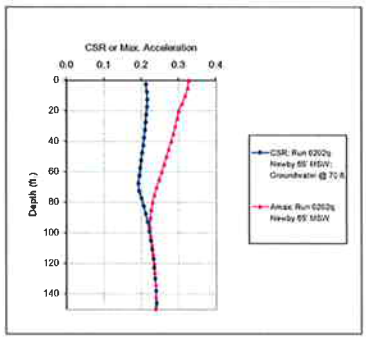
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.32599 Wasle (K&M)	Wasle (K&M)
5	0.32361 Wasle (K&M)	Wasle (K&M)
10	0.31725 Wasle (K&M)	Wasle (K&M)
15	0.30826 Wasle (K&M)	Wasle (K&M)
20	0.30027 Wasle (K&M)	Wasle (K&M)
25	0.29575 Wasle (K&M)	Wasle (K&M)
30	0.29084 Wasle (K&M)	Wasle (K&M)
35	0.28539 Wasle (K&M)	Wasle (K&M)
40	0.27942 Wasle (K&M)	Wasle (K&M)
45	0.27301 Wasle (K&M)	Wasle (K&M)
50	0.2669 Wasle (K&M)	Wasle (K&M)
55	0.2604 Wasle (K&M)	Wasle (K&M)
60	0.25354 Wasle (K&M)	Wasle (K&M)
65	0.24672 Wasle (K&M)	Wasle (K&M)
70	0.24023 Wasle (K&M)	Wasle (K&M)
75	0.23433 Wasle (K&M)	Wasle (K&M)
80	0.2292 Wasle (K&M)	Wasle (K&M)
85	0.22523 Wasle (K&M)	Wasle (K&M)
90	0.22278 Wasle (K&M)	Wasle (K&M)
96	0.22218 Wasle (K&M)	Wasle (K&M)
102	0.22404 Wasle (K&M)	Wasle (K&M)
108	0.2271 Wasle (K&M)	Wasle (K&M)
114	0.23034 Wasle (K&M)	Wasle (K&M)
120	0.23321 Wasle (K&M)	Wasle (K&M)
126	0.23547 Wasle (K&M)	Wasle (K&M)
134	0.2374 Wasle (K&M)	Wasle (K&M)
142	0.23795 Wasle (K&M)	Wasle (K&M)
150	0.23717 Clay PI=22	Clay PI=22
158	0.23298 EPRI 51-120'	EPRI 51-120'
165	0.22667 Clay PI=19	Clay PI=19
175	0.23961 Clay PI=19	Clay PI=19
185	0.25415 Clay PI=19	Clay PI=19
195	0.25704 Clay PI=19	Clay PI=19
205	0.26245 EPRI 51-120'	EPRI 51-120'
215	0.24704 EPRI 51-120'	EPRI 51-120'
225	0.26121 EPRI 51-120'	EPRI 51-120'
235	0.25268 EPRI 121-250	EPRI 121-250
260	0.23973 EPRI 121-250	EPRI 121-250
290	0.21258 EPRI 121-250	EPRI 121-250
320	0.19222 EPRI 121-250	EPRI 121-250
350	0.21152 EPRI 251-500	EPRI 251-500
370	0.20908 EPRI 251-500	EPRI 251-500
410	0.21479 EPRI 251-500	EPRI 251-500
460	0.22179 EPRI 251-500	EPRI 251-500
520	0.20968 EPRI 251-500	EPRI 251-500
605	0.22299 EPRI501-100C	EPRI501-1000
705	0.20898 EPRI501-100C	EPRI501-1000
825	0.19552 EPRI501-100C	EPRI501-1000
960	0.20121 EPRI501-100C	EPRI501-1000
1110	0.18008	

Run 0202q; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.326 g
Amax =	.326 g
CSR Max =	0.240
CSR Min =	0.085

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.212
10	600.0	0.215
15	1,000.0	0.215
20	1,400.0	0.214
25	1,800.0	0.213
30	2,200.0	0.211
35	2,600.0	0.209
40	3,000.0	0.207
45	3,400.0	0.205
50	3,825.0	0.202
55	4,275.0	0.199
60	4,725.0	0.197
65	5,175.0	0.194
70	5,625.0	0.191
75	5,919.0	0.193
80	6,057.0	0.200
85	6,195.0	0.206
90	6,333.0	0.211
96	6,484.8	0.216
102	6,650.4	0.221
108	6,816.0	0.225
114	6,981.6	0.228
120	7,147.2	0.231
126	7,312.8	0.234
134	7,506.0	0.236
142	7,726.8	0.238
150	7,947.6	0.240
158	8,288.4	0.240
165	8,737.9	0.238
175	9,280.0	0.233
185	9,926.0	0.227
195	10,572.0	0.222
205	11,218.0	0.216
215	11,864.0	0.209
225	12,510.0	0.203
235	13,156.0	0.196
260	14,286.5	0.183
290	16,063.0	0.168
320	18,018.0	0.170
350	19,984.0	0.168
370	21,624.0	0.163
410	23,592.0	0.161
460	26,569.0	0.154
520	30,232.0	0.145
605	35,103.0	0.131
705	41,406.0	0.106
825	49,012.0	0.094
960	57,953.5	0.085
1110	68,184.0	0.082





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.42 sec
Average Shear Wave Velocity for Soil Column: 1334 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\IZT180_30.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

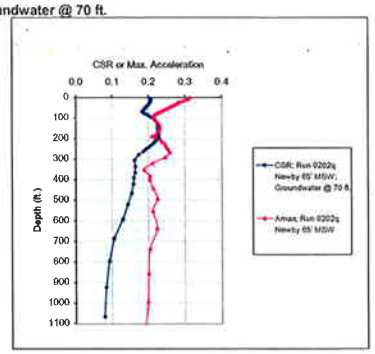
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel (fps)	Depth Max Acc (ft)
1	2.5	0.08	8	455.2	0.01378	62.71	428.0397	0
2	7.5	0.08	8.6	466.9	0.03816	190.68	442.6932	5
3	12.5	0.08	9.700001	545.4	0.05831	318.03	466.5334	10
4	17.5	0.08	10.5	608.1	0.07292	443.43	494.7325	15
5	22.5	0.08	11	650.1	0.08711	566.3	511.5323	20
6	27.5	0.08	11.4	720.7	0.09511	685.46	538.5924	25
7	32.5	0.08	11.7	765.3	0.10479	802.03	555.0074	30
8	37.5	0.08	12	812.9	0.11254	914.88	572.0073	35
9	42.5	0.08	12.2	863.1	0.11868	1024.37	589.4046	40
10	47.5	0.09	11.8	1044.5	0.10862	1134.48	611.3091	45
11	52.5	0.09	12	1108.1	0.11301	1250.1	629.0771	50
12	57.5	0.09	12.1	1170.5	0.11638	1362.31	647.1313	55
13	62.5	0.09	12.3	1198.4	0.12282	1471.79	654.7983	60
14	67.5	0.09	12.4	1287.1	0.12443	1576.63	673.3054	65
15	72.5	0.09	12.5	1297.6	0.12938	1678.87	681.3967	70
16	77.5	0.09	12.5	1370.4	0.12961	1776.25	700.2133	75
17	82.5	0.09	12.5	1445.8	0.12936	1870.35	719.2184	80
18	87.5	0.09	12.6	1480.3	0.13249	1961.31	727.7489	85
19	95	0.09	12.6	1555.9	0.13441	2091.23	746.1008	90
20	105	0.09	12.6	1676.3	0.13438	2252.87	774.4307	100
21	115	0.09	12.6	1802.9	0.13326	2402.52	803.1423	110
22	125	0.09	12.6	1935.4	0.13139	2542.9	832.1317	120
23	135	0.105	11.9	2403.2	0.11157	2661.26	858.4762	130
24	145	0.105	11.9	2566.5	0.11017	2830.81	887.6824	140
25	155	0.105	11.9	2678.3	0.11128	2979.8	906.2811	150
26	165	0.105	11.9	2854	0.10973	3131.67	935.5355	160
27	175	0.105	11.8	3034.6	0.10852	3293.24	964.6817	170
28	184	0.12	12.9	1009.7	0.34331	3456.15	519.7415	180
29	191.5	0.125	15.7	734.3	0.49017	3599.48	434.9203	188
30	200	0.127	14.6	825.7	0.45347	3744.27	457.5486	195
31	210	0.127	14.6	866.6	0.44945	3894.74	468.7437	205
32	220	0.127	14.4	954.1	0.42075	4014.44	491.8391	215
33	230	0.127	14.5	930.2	0.44137	4105.42	485.8398	225
34	240	0.127	14	1259.3	0.33083	4163.79	565.0549	235
35	250	0.127	14	1288.2	0.32658	4207.11	571.502	245
36	260	0.127	14.1	1265.2	0.33461	4233.46	566.3771	255
37	277.5	0.127	11.1	1726.1	0.24473	4224.15	661.5445	265
38	305	0.127	9.3	2477.2	0.17668	4361.67	792.5134	290
39	335	0.128	9	2883	0.17123	4636.76	851.6188	320
40	365	0.128	9.3	2949.4	0.18391	5424.38	861.3701	350
41	390	0.128	3.6	11724.9	0.04675	5716.3	1717.424	380
42	420	0.128	6.5	4833.8	0.12703	6140.14	1102.725	400
43	465	0.129	6.8	4727	0.14044	6638.32	1086.24	440
44	520	0.129	5.9	6724.7	0.10408	6999.25	1295.598	490
45	592.5	0.13	6	6605.9	0.10534	7274.82	1307.675	550
46	685	0.131	3.5	9865.6	0.07065	6970.3	1557.235	635
47	785	0.132	3.1	11428	0.06267	7184.3	1669.852	735
48	922.5	0.133	3.1	12319.7	0.06235	7681.48	1727.039	855
49	1085	0.135	2.2	22138.6	0.03869	8564.3	2297.927	990
50	Base							1140

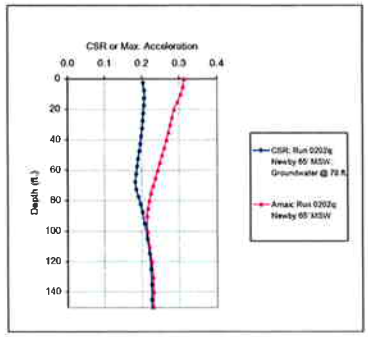
Max Acc (g)	G/Gmax Curve	Damping Curve
0.313	Wasle (K&M)	Wasle (K&M)
0.31067	Wasle (K&M)	Wasle (K&M)
0.30435	Wasle (K&M)	Wasle (K&M)
0.29547	Wasle (K&M)	Wasle (K&M)
0.28641	Wasle (K&M)	Wasle (K&M)
0.28155	Wasle (K&M)	Wasle (K&M)
0.27649	Wasle (K&M)	Wasle (K&M)
0.27114	Wasle (K&M)	Wasle (K&M)
0.26547	Wasle (K&M)	Wasle (K&M)
0.25948	Wasle (K&M)	Wasle (K&M)
0.25383	Wasle (K&M)	Wasle (K&M)
0.24785	Wasle (K&M)	Wasle (K&M)
0.24171	Wasle (K&M)	Wasle (K&M)
0.23554	Wasle (K&M)	Wasle (K&M)
0.22961	Wasle (K&M)	Wasle (K&M)
0.2242	Wasle (K&M)	Wasle (K&M)
0.2196	Wasle (K&M)	Wasle (K&M)
0.21607	Wasle (K&M)	Wasle (K&M)
0.21385	Wasle (K&M)	Wasle (K&M)
0.21453	Wasle (K&M)	Wasle (K&M)
0.22008	Wasle (K&M)	Wasle (K&M)
0.22576	Wasle (K&M)	Wasle (K&M)
0.22975	Wasle (K&M)	Wasle (K&M)
0.2311	Wasle (K&M)	Wasle (K&M)
0.23036	Wasle (K&M)	Wasle (K&M)
0.22782	Wasle (K&M)	Wasle (K&M)
0.22387	Wasle (K&M)	Wasle (K&M)
0.21921	Clay PI=22	Clay PI=22
0.20938	EPRI 51-120'	EPRI 51-120'
0.21022	Clay PI=19	Clay PI=19
0.23361	Clay PI=19	Clay PI=19
0.23792	Clay PI=19	Clay PI=19
0.24527	Clay PI=19	Clay PI=19
0.24827	EPRI 51-120'	EPRI 51-120'
0.25131	EPRI 51-120'	EPRI 51-120'
0.25654	EPRI 51-120'	EPRI 51-120'
0.2566	EPRI 121-250	EPRI 121-250
0.24582	EPRI 121-250	EPRI 121-250
0.21038	EPRI 121-250	EPRI 121-250
0.18798	EPRI 121-250	EPRI 121-250
0.20456	EPRI 251-500	EPRI 251-500
0.20309	EPRI 251-500	EPRI 251-500
0.21267	EPRI 251-500	EPRI 251-500
0.22457	EPRI 251-500	EPRI 251-500
0.21253	EPRI 251-500	EPRI 251-500
0.22382	EPRI501-100(	EPRI501-1000
0.20437	EPRI501-100(	EPRI501-1000
0.19985	EPRI501-100(	EPRI501-1000
0.19855	EPRI501-100(	EPRI501-1000
0.18934		

Run 0202q; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.313 g
Amax =	.313 g
CSR Max =	0.228
CSR Min =	0.084

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.204
10	600.0	0.207
15	1,000.0	0.207
20	1,400.0	0.206
25	1,800.0	0.204
30	2,200.0	0.203
35	2,600.0	0.201
40	3,000.0	0.198
45	3,400.0	0.196
50	3,825.0	0.193
55	4,275.0	0.190
60	4,725.0	0.187
65	5,175.0	0.185
70	5,625.0	0.182
75	5,919.0	0.184
80	6,057.0	0.191
85	6,195.0	0.196
90	6,333.0	0.201
100	6,540.0	0.208
110	6,816.0	0.215
120	7,092.0	0.220
130	7,368.0	0.224
140	7,719.0	0.228
150	8,145.0	0.228
160	8,571.0	0.228
170	8,997.0	0.228
180	9,423.0	0.227
188	9,866.4	0.228
195	10,315.9	0.227
205	10,858.0	0.224
215	11,504.0	0.220
225	12,150.0	0.215
235	12,796.0	0.209
245	13,442.0	0.201
255	14,088.0	0.194
265	14,734.0	0.187
290	15,884.5	0.173
320	17,641.0	0.161
350	19,594.0	0.164
380	21,562.0	0.164
400	23,202.0	0.160
440	25,170.0	0.159
490	28,147.0	0.153
550	31,810.0	0.143
635	36,681.0	0.129
735	42,984.0	0.105
855	50,500.0	0.092
990	59,531.5	0.084
1140	69,742.0	0.080





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.53 sec
Average Shear Wave Velocity for Soil Column 1338 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\IZT180_30.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

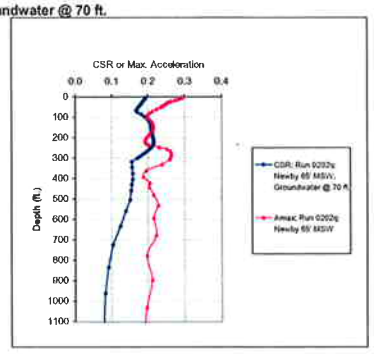
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6	455.4	0.01303	59.34	428.1338	0
2	7.5	0.08	8.4	487.8	0.03842	177.68	443.1021	5
3	12.5	0.08	9.4	548	0.05357	293.57	466.6468	10
4	17.5	0.08	10.2	611.3	0.06636	405.65	496.0325	15
5	22.5	0.08	10.7	653.8	0.07863	514.11	512.8859	20
6	27.5	0.08	11	726.4	0.08565	622.13	540.7181	25
7	32.5	0.08	11.3	773.8	0.09402	727.5	558.0611	30
8	37.5	0.08	11.6	821.9	0.10098	829.96	575.165	35
9	42.5	0.09	11.3	964.9	0.09381	933.38	596.618	40
10	47.5	0.09	11.5	1054.4	0.09884	1042.22	614.1994	45
11	55	0.09	11.8	1110.9	0.10808	1200.68	630.4406	50
12	65	0.09	12.1	1204.9	0.11625	1400.99	656.5717	60
13	75	0.09	12.2	1346.7	0.1176	1587.71	694.1321	70
14	85	0.09	12.3	1455.5	0.1211	1762.66	721.827	80
15	95	0.09	12.3	1570.7	0.12258	1925.43	749.6409	90
16	105	0.09	12.3	1692.1	0.12277	2077.32	778.0718	100
17	115	0.09	12.3	1819.4	0.122	2219.71	806.8091	110
18	125	0.09	12.2	1952.7	0.12054	2353.7	835.8425	120
19	135	0.105	11.8	2423.8	0.10257	2486.13	862.1478	130
20	145	0.105	11.8	2561	0.1015	2629.75	891.3884	140
21	155	0.105	11.8	2700.4	0.10265	2771.05	910.0125	150
22	165	0.105	11.6	2877.5	0.10129	2914.5	930.3793	160
23	175	0.105	11.6	3059.4	0.10019	3065.24	966.6165	170
24	185	0.105	11.6	3177	0.10155	3226.38	987.0563	180
25	195	0.105	11.7	3297.2	0.10283	3390.58	1005.555	190
26	205	0.105	11.6	3492.1	0.10176	3553.58	1034.848	200
27	215	0.105	11.6	3619.7	0.10257	3712.75	1053.585	210
28	224	0.12	13	1111.5	0.34719	3856	546.125	220
29	231.5	0.125	16	760.9	0.52394	3988.78	442.7278	228
30	240	0.127	14.8	854.9	0.48116	4113.51	465.5687	235
31	250	0.127	14.6	843.2	0.449	4234.86	480.0215	245
32	260	0.127	14.5	1001.7	0.4311	4318.22	503.9586	255
33	270	0.127	14.0	987.7	0.44172	4382.76	500.4245	265
34	280	0.127	13.8	1387.5	0.31234	4384.98	595.2535	275
35	290	0.127	13.8	1392.8	0.31215	4347.02	594.209	285
36	300	0.127	13.8	1398	0.30878	4310.56	594.834	295
37	317.5	0.127	10.6	1918.9	0.21939	4209.79	697.5129	305
38	345	0.127	9.4	2552.8	0.18227	4652.79	804.6156	330
39	375	0.128	9	3026.4	0.17193	5203.11	872.5415	360
40	405	0.128	9.5	2963.6	0.18947	5671.88	867.8004	390
41	430	0.128	3.0	12173.4	0.04908	5975.22	1749.963	420
42	460	0.128	6.4	5055	0.12505	6386.91	1127.674	440
43	505	0.129	6.8	4924.7	0.14154	6970.48	1106.723	480
44	560	0.129	5.9	6888.5	0.10414	7173.77	1311.28	530
45	632.5	0.13	5.9	7130.3	0.10267	7321.01	1328.955	590
46	725	0.131	3.4	10106.4	0.07075	7149.84	1578.125	675
47	835	0.132	3.2	11499.5	0.0642	7383.22	1674.868	775
48	962.5	0.133	3.1	12587.7	0.0621	7818.77	1745.723	895
49	1105	0.135	2.2	22101.0	0.03942	8713.64	2296.021	1030
50	Base							1180

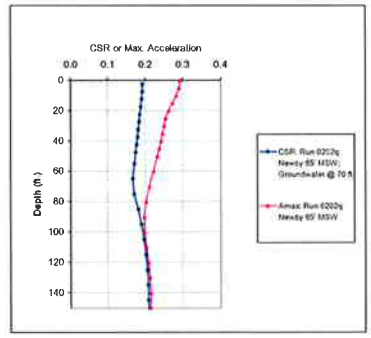
Max Acc (g)	G/Gmax Curve	Damping Curve
0.29346	Wasle (K&M)	Wasle (K&M)
0.29096	Wasle (K&M)	Wasle (K&M)
0.28404	Wasle (K&M)	Wasle (K&M)
0.27394	Wasle (K&M)	Wasle (K&M)
0.2627	Wasle (K&M)	Wasle (K&M)
0.255	Wasle (K&M)	Wasle (K&M)
0.25078	Wasle (K&M)	Wasle (K&M)
0.24645	Wasle (K&M)	Wasle (K&M)
0.24193	Wasle (K&M)	Wasle (K&M)
0.23757	Wasle (K&M)	Wasle (K&M)
0.23283	Wasle (K&M)	Wasle (K&M)
0.22231	Wasle (K&M)	Wasle (K&M)
0.21172	Wasle (K&M)	Wasle (K&M)
0.203	Wasle (K&M)	Wasle (K&M)
0.19772	Wasle (K&M)	Wasle (K&M)
0.19834	Wasle (K&M)	Wasle (K&M)
0.2036	Wasle (K&M)	Wasle (K&M)
0.20921	Wasle (K&M)	Wasle (K&M)
0.2133	Wasle (K&M)	Wasle (K&M)
0.2149	Wasle (K&M)	Wasle (K&M)
0.21451	Wasle (K&M)	Wasle (K&M)
0.21242	Wasle (K&M)	Wasle (K&M)
0.20896	Wasle (K&M)	Wasle (K&M)
0.20473	Wasle (K&M)	Wasle (K&M)
0.19978	Wasle (K&M)	Wasle (K&M)
0.19442	Wasle (K&M)	Wasle (K&M)
0.19128	Wasle (K&M)	Wasle (K&M)
0.19278	Clay PI=22	Clay PI=22
0.1959	EPRI 51-120'	EPRI 51-120'
0.20219	Clay PI=19	Clay PI=19
0.23078	Clay PI=19	Clay PI=19
0.25192	Clay PI=19	Clay PI=19
0.26183	Clay PI=19	Clay PI=19
0.26403	EPRI 51-120'	EPRI 51-120'
0.25298	EPRI 51-120'	EPRI 51-120'
0.26129	EPRI 51-120'	EPRI 51-120'
0.25826	EPRI 121-250	EPRI 121-250
0.23733	EPRI 121-250	EPRI 121-250
0.19569	EPRI 121-250	EPRI 121-250
0.18749	EPRI 121-250	EPRI 121-250
0.20483	EPRI 251-500	EPRI 251-500
0.20356	EPRI 251-500	EPRI 251-500
0.2154	EPRI 251-500	EPRI 251-500
0.22768	EPRI 251-500	EPRI 251-500
0.21608	EPRI 251-500	EPRI 251-500
0.22261	EPRI501-100(	EPRI501-1000
0.19734	EPRI501-100(	EPRI501-1000
0.21127	EPRI501-100(	EPRI501-1000
0.19993	EPRI501-100(	EPRI501-1000
0.18799		

Run 0202q; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.293 g
Amax =	.293 g
CSR Max =	0.216
CSR Min =	0.083

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.103
10	600.0	0.192
15	1,000.0	0.191
20	1,400.0	0.188
25	1,800.0	0.186
30	2,200.0	0.184
35	2,600.0	0.182
40	3,000.0	0.180
45	3,425.0	0.177
50	3,875.0	0.175
60	4,550.0	0.172
70	5,450.0	0.167
80	6,038.0	0.171
90	6,314.0	0.181
100	6,590.0	0.190
110	6,866.0	0.197
120	7,142.0	0.202
130	7,418.0	0.206
140	7,769.0	0.208
150	8,195.0	0.209
160	8,621.0	0.209
170	9,047.0	0.209
180	9,473.0	0.210
190	9,899.0	0.212
200	10,325.0	0.213
210	10,751.0	0.215
220	11,177.0	0.216
228	11,620.4	0.218
235	12,069.9	0.215
245	12,612.0	0.212
255	13,258.0	0.208
265	13,904.0	0.202
275	14,550.0	0.195
285	15,196.0	0.187
295	15,842.0	0.178
305	16,488.0	0.170
330	17,818.5	0.155
360	19,385.0	0.156
390	21,348.0	0.158
420	23,316.0	0.158
440	24,856.0	0.156
480	26,924.0	0.154
530	29,901.0	0.152
590	33,564.0	0.139
675	38,435.0	0.124
775	44,738.0	0.104
895	52,344.0	0.092
1030	61,265.5	0.083
1180	71,496.0	0.078





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.71 sec
Average Shear Wave Velocity for Soil Column: 1330 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\ZT180_30.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

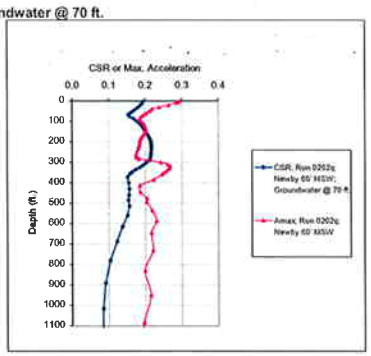
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)
1	2.5	0.08	6.9	455.4	0.01296	59.12	428.1338
2	7.5	0.08	8.4	467.8	0.03629	177.05	443.1021
3	15	0.08	9.9	566.6	0.06172	349.71	477.6526
4	25	0.08	11	650.2	0.08709	566.24	511.5716
5	35	0.08	11.5	770.2	0.09901	762.57	556.7814
6	45	0.08	11.8	872.7	0.1074	937.34	592.6734
7	55	0.08	11.9	965.8	0.11070	1092.14	629.9083
8	65	0.08	12	1073.2	0.11473	1231.23	667.2389
9	75	0.08	12.1	1200.7	0.11382	1366.59	695.1847
10	85	0.09	11.7	1480.8	0.10226	1514.21	727.8718
11	95	0.09	11.7	1596.8	0.10425	1664.73	755.8436
12	105	0.09	11.8	1718.9	0.10514	1807.27	784.2093
13	115	0.09	11.8	1847	0.10519	1942.91	812.9056
14	125	0.09	11.7	1980.8	0.10465	2072.96	841.835
15	135	0.09	11.8	2098.4	0.10533	2199.44	860.2485
16	145	0.09	11.8	2211.4	0.10505	2323.16	869.4885
17	155	0.09	11.8	2304.8	0.10823	2448.5	908.0783
18	165	0.09	11.8	2455.7	0.10498	2577.93	937.3339
19	175	0.09	11.7	2611	0.1039	2712.88	966.5184
20	185	0.105	11.1	3217.2	0.08698	2861.89	993.2814
21	195	0.105	11.2	3339.8	0.09053	3023.62	1012.03
22	205	0.105	11.2	3534.6	0.09094	3182.51	1041.126
23	215	0.105	11.2	3663.3	0.09196	3336.89	1059.911
24	225	0.105	11.3	3764.5	0.09186	3485.68	1078.725
25	237.5	0.105	11.2	4002.2	0.09152	3662.81	1107.854
26	252.5	0.105	11.2	4213.2	0.0917	3863.41	1136.683
27	267.5	0.105	11.2	4431.7	0.09146	4053.35	1165.785
28	279	0.12	12.9	1245.1	0.33791	4203.5	578.0164
29	286.5	0.125	16.6	740.5	0.58209	4310.48	436.7526
30	295	0.127	15	888.4	0.50603	4384.57	466.2302
31	305	0.127	14.7	966.6	0.46026	4462.33	495.8181
32	315	0.127	14.6	1041.5	0.43103	4488.29	513.8729
33	325	0.127	14.5	1040.2	0.43012	4474.08	513.5521
34	335	0.127	13.8	1487.6	0.29677	4414.72	614.1425
35	345	0.127	13.4	1508.8	0.28714	4332.37	618.5032
36	355	0.127	13.3	1638	0.27813	4292.84	624.4585
37	372.5	0.127	10.3	2052.3	0.21367	4388.14	721.3508
38	400	0.127	9.5	2824.9	0.18617	4888.84	815.7077
39	430	0.128	9.3	2999.1	0.18099	5428.17	868.5072
40	460	0.128	9.6	3076.4	0.19087	5885.64	879.7197
41	485	0.128	3.7	12383.1	0.05001	6193.39	1764.971
42	515	0.128	6.6	5046.5	0.13394	6759.14	1128.725
43	560	0.129	6.9	4938	0.14636	7227.38	1110.219
44	615	0.129	5.9	6948	0.10538	7321.60	1318.931
45	667.5	0.13	5.9	7206.6	0.10328	7445.1	1338.232
46	760	0.131	3.5	10174.7	0.0724	7366.50	1581.441
47	890	0.132	3.2	11619.6	0.06429	7469.66	1663.584
48	1017.5	0.133	3.1	12647.8	0.06466	8160.31	1749.885
49	1160	0.135	2.3	21930.5	0.0427	9363.89	2287.101
50	Base						

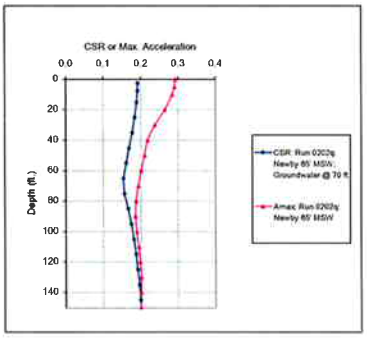
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.29287	Waste (K&M)	Waste (K&M)
5	0.29074	Waste (K&M)	Waste (K&M)
10	0.28463	Waste (K&M)	Waste (K&M)
20	0.26501	Waste (K&M)	Waste (K&M)
30	0.23604	Waste (K&M)	Waste (K&M)
40	0.21873	Waste (K&M)	Waste (K&M)
50	0.21038	Waste (K&M)	Waste (K&M)
60	0.20165	Waste (K&M)	Waste (K&M)
70	0.19332	Waste (K&M)	Waste (K&M)
80	0.18733	Waste (K&M)	Waste (K&M)
90	0.18551	Waste (K&M)	Waste (K&M)
100	0.18907	Waste (K&M)	Waste (K&M)
110	0.19435	Waste (K&M)	Waste (K&M)
120	0.19848	Waste (K&M)	Waste (K&M)
130	0.20068	Waste (K&M)	Waste (K&M)
140	0.20184	Waste (K&M)	Waste (K&M)
150	0.20044	Waste (K&M)	Waste (K&M)
160	0.19755	Waste (K&M)	Waste (K&M)
170	0.19331	Waste (K&M)	Waste (K&M)
180	0.18828	Waste (K&M)	Waste (K&M)
190	0.18543	Waste (K&M)	Waste (K&M)
200	0.18555	Waste (K&M)	Waste (K&M)
210	0.18465	Waste (K&M)	Waste (K&M)
220	0.18273	Waste (K&M)	Waste (K&M)
230	0.18038	Waste (K&M)	Waste (K&M)
245	0.17663	Waste (K&M)	Waste (K&M)
260	0.17481	Waste (K&M)	Waste (K&M)
275	0.17476	Clay PI=22	Clay PI=22
283	0.18275	EPRI 51-120'	EPRI 51-120'
290	0.20963	Clay PI=19	Clay PI=19
300	0.24302	Clay PI=19	Clay PI=19
310	0.26241	Clay PI=19	Clay PI=19
320	0.26692	Clay PI=19	Clay PI=19
330	0.26588	EPRI 51-120'	EPRI 51-120'
340	0.25957	EPRI 51-120'	EPRI 51-120'
350	0.25239	EPRI 51-120'	EPRI 51-120'
360	0.24529	EPRI 121-250	EPRI 121-250
385	0.22281	EPRI 121-250	EPRI 121-250
415	0.18555	EPRI 121-250	EPRI 121-250
445	0.18729	EPRI 121-250	EPRI 121-250
475	0.20437	EPRI 251-500	EPRI 251-500
495	0.20334	EPRI 251-500	EPRI 251-500
535	0.21849	EPRI 251-500	EPRI 251-500
585	0.23087	EPRI 251-500	EPRI 251-500
645	0.21699	EPRI 251-500	EPRI 251-500
730	0.22067	EPRI501-1000	EPRI501-1000
830	0.19945	EPRI501-1000	EPRI501-1000
950	0.21484	EPRI501-1000	EPRI501-1000
1085	0.19652	EPRI501-1000	EPRI501-1000
1235	0.18724		

Run 0202q; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.293 g
Amax =	.293 g
CSR Max =	0.217
CSR Min =	0.085

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.192
10	600.0	0.192
20	1,200.0	0.189
30	2,000.0	0.184
40	2,800.0	0.177
50	3,600.0	0.169
60	4,400.0	0.161
70	5,200.0	0.154
80	5,688.0	0.156
90	5,914.0	0.166
100	6,190.0	0.175
110	6,466.0	0.182
120	6,742.0	0.187
130	7,018.0	0.192
140	7,294.0	0.196
150	7,570.0	0.199
160	7,846.0	0.203
170	8,122.0	0.206
180	8,398.0	0.210
190	8,749.0	0.213
200	9,175.0	0.214
210	9,601.0	0.215
220	10,027.0	0.216
230	10,453.0	0.217
245	10,985.5	0.217
260	11,624.5	0.218
275	12,263.5	0.215
283	12,813.4	0.213
290	13,262.9	0.211
300	13,805.0	0.207
310	14,451.0	0.201
320	15,097.0	0.193
330	15,743.0	0.185
340	16,389.0	0.176
350	17,035.0	0.165
360	17,681.0	0.158
365	18,811.5	0.162
415	20,588.0	0.154
445	22,641.0	0.157
475	24,609.0	0.158
495	26,149.0	0.154
535	28,117.0	0.156
585	31,084.0	0.161
645	34,757.0	0.137
730	39,628.0	0.122
830	45,831.0	0.104
950	53,537.0	0.091
1085	62,478.5	0.085
1235	72,689.0	0.084





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 CRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.419 g
Max EQ PGA for All Soil Profiles =	.419 g
Min EQ PGA for All Soil Profiles =	.320 g

U. Wt. of Water =	62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 3.09 sec
Average Shear Wave Velocity for Soil Column: 1302 ft/sec
Analysis No.: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

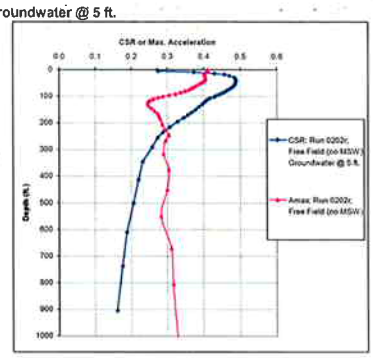
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

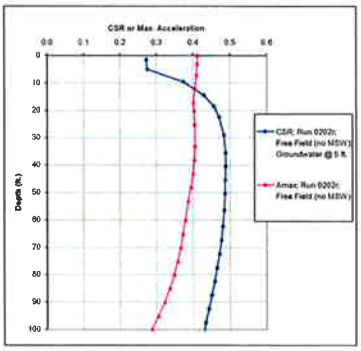
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3.3	626	0.01133	70.93	422.3533	0	0.41257	Clay PI=30	Clay PI=30
2	5	0.113	5.9	504.4	0.0473	238.56	379.1196	3	0.41224	Clay PI=30	Clay PI=30
3	8.5	0.113	7.900001	402.1	0.11307	454.7	338.4977	7	0.41063	Clay PI=30	Clay PI=30
4	14.5	0.113	8.900001	413.5	0.16716	691.2	343.2626	12	0.40651	Clay PI=30	Clay PI=30
5	18.5	0.12	11.8	365.9	0.24174	884.65	313.3419	17	0.40214		
6	22.5	0.113	8.7	672.2	0.15839	1064.77	437.6611	20	0.4031	Clay PI=30	Clay PI=30
7	29	0.125	9	1031.5	0.13323	1374.23	516.4749	25	0.40534	Sand Upper	Sand lower
8	35.5	0.127	12.2	717.5	0.23644	1696.39	428.6177	33	0.40594	Clay PI=19	Clay PI=19
9	40.5	0.127	12.6	742.1	0.26137	1939.49	433.7678	38	0.40443	Clay PI=19	Clay PI=19
10	45.5	0.127	13.2	693	0.3144	2178.96	419.1724	43	0.40073	Clay PI=19	Clay PI=19
11	50.5	0.127	13.2	772	0.31291	2415.83	442.42	48	0.39444	Clay PI=19	Clay PI=19
12	56.5	0.125	13.2	931.4	0.28901	2691.92	489.8251	53	0.38730	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	14.5	645	0.45715	2948.57	404.3951	60	0.37914	Clay PI=19	Clay PI=19
14	67.5	0.127	14.4	732.9	0.43134	3161.35	431.0706	65	0.37236	Clay PI=19	Clay PI=19
15	72.5	0.127	14.6	723.8	0.46404	3358.81	428.3861	70	0.36615	Clay PI=19	Clay PI=19
16	77.5	0.127	15	682.8	0.51801	3543.03	416.0761	75	0.35858	Clay PI=19	Clay PI=19
17	82.5	0.127	15	730	0.50981	3721.88	430.2169	80	0.34966	Clay PI=19	Clay PI=19
18	87.5	0.127	15.3	694.3	0.55654	3884.73	419.5554	85	0.33718	Clay PI=19	Clay PI=19
19	92.5	0.127	15.6	661.4	0.61029	4036.38	409.504	90	0.32308	Clay PI=19	Clay PI=19
20	97.5	0.127	15.9	630.9	0.66195	4176.54	399.9506	95	0.30629	Clay PI=19	Clay PI=19
21	102.5	0.127	14.6	948.6	0.45716	4336.84	490.4194	100	0.28779	Clay PI=19	Clay PI=19
22	107.5	0.127	16.1	827.3	0.5361	4435.16	457.8917	105	0.27475	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	16.5	788.3	0.57858	4560.93	447.0662	110	0.2615	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	16.9	758.2	0.62133	4711.14	438.4479	116	0.25141	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	17.3	726.6	0.66693	4860.42	428.2139	120	0.24669	EPRI 51-120'	EPRI 51-120'
26	130	0.127	14.1	1056.2	0.46079	5092.65	518.2211	125	0.24554	EPRI 121-250	EPRI 121-250
27	140	0.127	14.6	985.9	0.54374	5360.5	499.9684	135	0.24773	EPRI 121-250	EPRI 121-250
28	150	0.127	15.2	934.3	0.59903	5596.48	486.7089	145	0.25639	EPRI 121-250	EPRI 121-250
29	160	0.127	15.7	893.8	0.64874	5798.4	476.0431	155	0.26467	EPRI 121-250	EPRI 121-250
30	170	0.127	12.8	1875.4	0.35771	5992.92	651.7565	165	0.27398	EPRI 121-250	EPRI 121-250
31	180	0.127	12.4	1869.9	0.32876	6147.6	688.5497	175	0.27707	EPRI 121-250	EPRI 121-250
32	195	0.127	12.8	1781.7	0.35589	6340.83	672.1145	185	0.28054	EPRI 121-250	EPRI 121-250
33	215	0.128	13.2	1710.5	0.3822	6537.55	655.9708	205	0.28633	EPRI 121-250	EPRI 121-250
34	235	0.128	12.7	1991.8	0.33996	6704.99	707.8219	225	0.29302	EPRI 121-250	EPRI 121-250
35	255	0.128	4.9	9656.4	0.07161	6918.1	1556.747	245	0.30529	EPRI 251-500	EPRI 251-500
36	290	0.128	8.4	3793.5	0.19646	7452.63	976.884	265	0.29528	EPRI 251-500	EPRI 251-500
37	345	0.129	8.1	4346.9	0.1839	7993.78	1041.653	315	0.28926	EPRI 251-500	EPRI 251-500
38	412.5	0.13	7.5	5451.7	0.16754	9133.49	1162.043	375	0.30431	EPRI 251-500	EPRI 251-500
39	500	0.131	4.9	7668.4	0.13212	10422.29	1392.473	450	0.30032	EPRI501-1000	EPRI501-1000
40	610	0.132	6	8714.7	0.13438	11711.16	1458.032	550	0.28241	EPRI501-1000	EPRI501-1000
41	737.5	0.133	6	9567.2	0.13945	13327.14	1521.134	670	0.31165	EPRI501-1000	EPRI501-1000
42	905	0.135	3.6	19588.4	0.07734	15148.7	2181.526	805	0.31668	EPRI501-1000	EPRI501-1000
43	Base							1005	0.32825		

Run 0202r; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth =	5.0 ft.
PGA =	.413 g
Amax =	.413 g
CSR Max =	0.458
CSR Min =	0.160

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	169.5	0.272
7	565.0	0.274
12	792.7	0.373
17	1,045.7	0.430
20	1,258.6	0.457
25	1,471.5	0.470
33	1,848.4	0.483
38	2,260.3	0.488
43	2,583.3	0.488
48	2,906.3	0.487
53	3,229.3	0.486
60	3,609.9	0.485
65	3,990.5	0.480
70	4,313.5	0.476
75	4,636.5	0.471
80	4,959.5	0.464
85	5,282.5	0.456
90	5,605.5	0.450
95	5,928.5	0.443
100	6,251.5	0.434
105	6,574.5	0.429
110	6,897.5	0.418
115	7,220.5	0.411
120	7,543.5	0.406
125	7,866.5	0.402
135	8,351.0	0.396
145	8,997.0	0.387
155	9,643.0	0.377
165	10,289.0	0.366
175	10,935.0	0.356
185	11,581.0	0.346
205	12,550.0	0.328
225	13,852.0	0.307
245	15,184.0	0.287
265	16,476.0	0.273
315	18,772.0	0.258
375	22,410.0	0.232
450	26,943.0	0.220
550	32,908.0	0.206
670	40,514.0	0.188
805	49,455.5	0.175
1005	61,481.0	0.160





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 3.14 sec
Average Shear Wave Velocity for Soil Column: 1290 ft/sec
Analysis No.: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

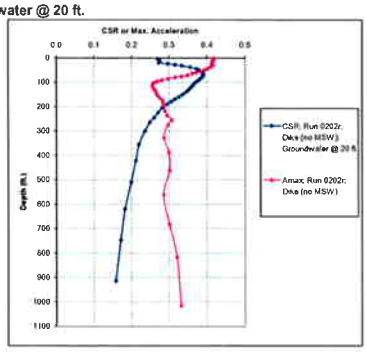
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

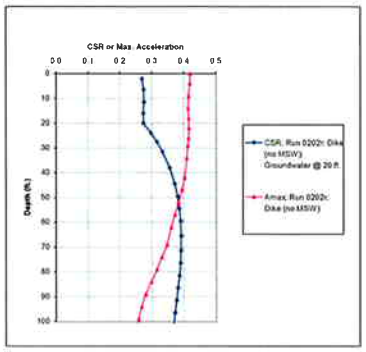
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	2.7	1718.8	0.0058	99.69	678.6907	0	0.41931	Clay PI=22	Clay PI=22
2	6.5	0.12	7.900001	464.9	0.07069	328.83	353.1971	4	0.41904	Clay PI=22	Clay PI=22
3	11.5	0.12	10.6	339.5	0.17197	583.88	301.8264	9	0.41537	Clay PI=22	Clay PI=22
4	16	0.113	10.3	300.5	0.26724	802.97	292.6247	14	0.41331	Clay PI=30	Clay PI=30
5	20	0.113	11.4	262.1	0.37784	990.42	273.2691	18	0.41528	Clay PI=30	Clay PI=30
6	24	0.113	10.9	359.1	0.32653	1172.62	319.8889	22	0.41602	Clay PI=30	Clay PI=30
7	27.5	0.12	15	241.9	0.55251	1338.52	254.7741	26	0.41522		
8	31.5	0.113	10.4	554.5	0.27412	1520.01	367.5022	29	0.413	Clay PI=30	Clay PI=30
9	38	0.125	11.7	771.4	0.23742	1831.53	445.772	34	0.40973	Sand Upper	Sand lower
10	44.5	0.127	13.8	583.6	0.36767	2146.72	384.6659	42	0.40246	Clay PI=19	Clay PI=19
11	49.5	0.127	14.5	531	0.44686	2383.61	366.9217	47	0.39415	Clay PI=19	Clay PI=19
12	54.5	0.127	15.1	483.2	0.53088	2608.53	350.0173	52	0.38409	Clay PI=19	Clay PI=19
13	59.5	0.127	15	541.3	0.52201	2825.61	370.4632	57	0.37264	Clay PI=19	Clay PI=19
14	65.5	0.125	14.7	769.2	0.38926	3070.91	445.1359	62	0.36175	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	15.4	565	0.58262	3281.89	378.4864	66	0.34849	Clay PI=19	Clay PI=19
16	76.5	0.127	15.1	654.5	0.531	3475.18	407.3624	74	0.33274	Clay PI=19	Clay PI=19
17	81.5	0.127	15.3	651.4	0.55885	3640.38	406.3965	79	0.31691	Clay PI=19	Clay PI=19
18	86.5	0.127	15.6	617.9	0.61367	3791.74	395.8086	84	0.29927	Clay PI=19	Clay PI=19
19	91.5	0.127	15.5	669.9	0.58609	3939.55	412.127	89	0.28138	Clay PI=19	Clay PI=19
20	96.5	0.127	15.8	640.7	0.63569	4073.01	403.0449	94	0.26828	Clay PI=19	Clay PI=19
21	101.5	0.127	16	613.8	0.68541	4206.87	394.4932	99	0.25985	Clay PI=19	Clay PI=19
22	106.5	0.127	16.3	588.1	0.74026	4353.72	386.1481	104	0.25627	Clay PI=19	Clay PI=19
23	111.5	0.127	14.9	907	0.49744	4511.8	479.5454	109	0.25618	Clay PI=19	Clay PI=19
24	116.5	0.127	16.7	770.7	0.60351	4651.38	442.0473	114	0.25655	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	17.1	740.5	0.64869	4790.22	433.2999	119	0.25819	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	17.6	709.1	0.69384	4919.94	424.0136	124	0.26041	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	17.9	686.8	0.73399	5040.88	417.2931	129	0.26267	EPRI 51-120'	EPRI 51-120'
28	139	0.127	14.5	1001.4	0.52209	5228.09	503.8832	134	0.26481	EPRI 121-250	EPRI 121-250
29	149	0.127	15	953.8	0.5666	5423.45	491.7817	144	0.26575	EPRI 121-250	EPRI 121-250
30	159	0.127	15.4	915.8	0.61004	5587	481.8861	154	0.27115	EPRI 121-250	EPRI 121-250
31	169	0.127	15.8	886.6	0.64342	5717.41	474.5563	164	0.27969	EPRI 121-250	EPRI 121-250
32	179	0.127	12.8	1878.2	0.34844	5847.4	652.3008	174	0.2835	EPRI 121-250	EPRI 121-250
33	189	0.127	12.3	1884	0.31585	5950.54	661.1406	184	0.28456	EPRI 121-250	EPRI 121-250
34	204	0.127	12.7	1816.1	0.3356	6094.64	678.572	194	0.28604	EPRI 121-250	EPRI 121-250
35	224	0.128	13	1769.3	0.36139	6393.84	667.1503	214	0.28875	EPRI 121-250	EPRI 121-250
36	244	0.128	12.5	2037.4	0.32724	6666.68	715.9144	234	0.29603	EPRI 121-250	EPRI 121-250
37	264	0.128	4.8	9719.6	0.07057	6859.5	1593.877	254	0.30831	EPRI 251-500	EPRI 251-500
38	299	0.128	8.2	3841.1	0.19142	7352.77	982.0938	274	0.29798	EPRI 251-500	EPRI 251-500
39	354	0.129	8	4380	0.18432	8073.21	1045.811	324	0.28727	EPRI 251-500	EPRI 251-500
40	421.5	0.13	7.6	5434.5	0.17033	9256.86	1160.209	384	0.29972	EPRI 251-500	EPRI 251-500
41	509	0.131	5	7854.9	0.13444	10560.36	1389.513	459	0.30253	EPRI501-1000	EPRI501-1000
42	619	0.132	5	8687.4	0.13587	11803.17	1455.747	559	0.28618	EPRI501-1000	EPRI501-1000
43	746.5	0.133	5.1	9525.9	0.1413	13459.88	1518.841	679	0.30116	EPRI501-1000	EPRI501-1000
44	914	0.135	3.6	19656	0.07804	15261.43	2159.738	814	0.32055	EPRI501-1000	EPRI501-1000
45	Base							1014	0.33188		

Run 0202r; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth =	20.0 ft.
PGA =	.419 g
Amax =	.419 g
CSR Max =	0.391
CSR Min =	0.158

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.270
9	780.0	0.274
14	1,380.0	0.275
18	1,906.0	0.274
22	2,358.0	0.273
26	2,560.4	0.298
29	2,749.0	0.316
34	2,960.9	0.334
42	3,337.8	0.357
47	3,749.7	0.372
52	4,072.7	0.380
57	4,395.7	0.386
62	4,718.7	0.389
69	5,069.3	0.391
74	5,479.9	0.390
79	5,802.9	0.389
84	6,125.9	0.388
89	6,448.9	0.382
94	6,771.9	0.378
99	7,094.9	0.373
104	7,417.9	0.369
109	7,740.9	0.366
114	8,063.9	0.364
119	8,386.9	0.360
124	8,709.9	0.357
129	9,032.9	0.354
134	9,355.9	0.350
144	9,840.4	0.345
154	10,486.4	0.336
164	11,132.4	0.326
174	11,778.4	0.316
184	12,424.4	0.306
194	13,070.4	0.296
214	14,039.4	0.282
234	15,341.4	0.271
254	16,653.4	0.260
274	17,965.4	0.248
324	20,261.4	0.236
384	23,889.4	0.220
459	28,432.4	0.212
559	34,397.4	0.200
679	42,003.4	0.183
814	50,944.9	0.172
1014	62,970.4	0.158





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 3.2 sec
Average Shear Wave Velocity for Soil Column: 1289 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

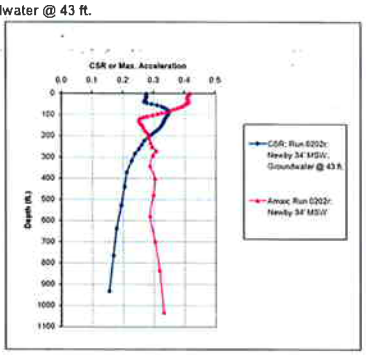
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.7	452.6	0.01859	84.12	426.8156	
2	7.5	0.08	9.2	505	0.05025	253.78	450.8464	
3	13	0.08	10.8	534.9	0.0823	440.21	464.0014	
4	19	0.08	11.8	589.3	0.10892	641.84	487.0249	
5	25	0.08	12.5	648.6	0.12964	840.81	510.9418	
6	31	0.08	12.9	713.9	0.14522	1036.65	536.0455	
7	35.5	0.12	9.999999	1135.7	0.10573	1200.85	552.0382	
8	40.5	0.113	10.7	458.7	0.31245	1433.29	361.5373	
9	45.5	0.12	15.7	252.5	0.65637	1657.06	260.2963	
10	49.5	0.113	10.5	638.6	0.26816	1840.12	426.5826	
11	56	0.125	12	841.6	0.25426	2139.84	465.6137	
12	62.5	0.127	13.9	642.7	0.37974	2440.49	403.6735	
13	67.5	0.127	14.5	592.2	0.45023	2666.13	387.4898	
14	72.5	0.127	15.1	545.4	0.52804	2880.09	371.8638	
15	77.5	0.127	15	594.6	0.51902	3086.03	388.2742	
16	83.5	0.125	14.8	856.2	0.38831	3320.93	460.3808	
17	89.5	0.127	15.3	628.6	0.56181	3629.45	399.1891	
18	94.5	0.127	15	728	0.51029	3704.62	429.0367	
19	99.5	0.127	15.2	726.3	0.53175	3862.04	429.1253	
20	104.5	0.127	15.4	694.6	0.57678	4005.96	419.6258	
21	109.5	0.127	15.4	734.6	0.6045	4146.26	431.5409	
22	114.5	0.127	15.6	706.8	0.60489	4275.48	423.3254	
23	119.5	0.127	15.8	681	0.64766	4410.03	415.5274	
24	124.5	0.127	16.1	656	0.69501	4559.23	407.8289	
25	129.5	0.127	14.9	964.1	0.48912	4715.68	494.4099	
26	134.5	0.127	16.4	845.9	0.57388	4854.33	463.1115	
27	139.5	0.127	16.8	815.9	0.61175	4991.34	454.8252	
28	144.5	0.127	17.2	784.4	0.65271	5119.61	445.9589	
29	149.5	0.127	17.6	753.3	0.69541	5238.56	437.0288	
30	157	0.127	14.2	1112.5	0.48798	5428.67	531.0997	
31	167	0.127	14.6	1047.2	0.53725	5626.31	515.2772	
32	177	0.127	15.1	1007.1	0.57522	5793.22	505.3152	
33	187	0.127	15.4	973.5	0.60883	5926.91	496.8143	
34	197	0.127	12.8	1734.4	0.34928	6057.9	663.1331	
35	207	0.127	12.3	1956.3	0.31426	6157.3	704.8173	
36	222	0.127	12.8	1894.3	0.33188	6286.87	693.0275	
37	242	0.128	12.9	1852.5	0.35808	6546.01	682.6563	
38	262	0.128	12.4	2125.3	0.32304	6884.74	731.1948	
39	282	0.128	4.8	10074.2	0.06964	7016.02	1501.946	
40	317	0.129	8.1	4025.1	0.1859	7482.68	1002.355	
41	372	0.129	8	4504.9	0.18168	8184.61	1060.415	
42	439.5	0.13	7.5	5519.4	0.16867	9320.62	1189.236	
43	527	0.131	5	7936.8	0.13394	10630.59	1396.738	
44	637	0.132	5	8868	0.13373	11858.39	1470.801	
45	764.5	0.133	5	9654	0.13984	13500.39	1528.818	
46	932	0.135	3.6	19544.4	0.07817	15277.14	2159.087	
47	Base							

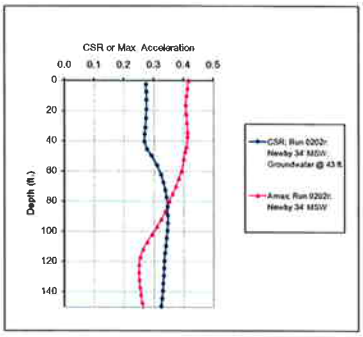
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.41379	Wasle (K&M)	Wasle (K&M)
5	0.41241	Wasle (K&M)	Wasle (K&M)
10	0.40923	Wasle (K&M)	Wasle (K&M)
16	0.40711	Wasle (K&M)	Wasle (K&M)
22	0.40797	Wasle (K&M)	Wasle (K&M)
28	0.41028	Wasle (K&M)	Wasle (K&M)
34	0.4115	Clay PI=22	Clay PI=22
37	0.41154	Clay PI=30	Clay PI=30
44	0.40911		
47	0.40504	Clay PI=30	Clay PI=30
52	0.4005	Sand Upper	Sand lower
60	0.39229	Clay PI=19	Clay PI=19
65	0.38428	Clay PI=19	Clay PI=19
70	0.37468	Clay PI=19	Clay PI=19
75	0.36314	Clay PI=19	Clay PI=19
80	0.35145	EPRI 51-120'	EPRI 51-120'
87	0.33829	Clay PI=19	Clay PI=19
92	0.32399	Clay PI=19	Clay PI=19
97	0.31001	Clay PI=19	Clay PI=19
102	0.29451	Clay PI=19	Clay PI=19
107	0.27811	Clay PI=19	Clay PI=19
112	0.26444	Clay PI=19	Clay PI=19
117	0.25458	Clay PI=19	Clay PI=19
122	0.24982	Clay PI=19	Clay PI=19
127	0.24965	Clay PI=19	Clay PI=19
132	0.25081	EPRI 51-120'	EPRI 51-120'
137	0.25329	EPRI 51-120'	EPRI 51-120'
142	0.2567	EPRI 51-120'	EPRI 51-120'
147	0.2602	EPRI 51-120'	EPRI 51-120'
152	0.26357	EPRI 121-250	EPRI 121-250
162	0.26514	EPRI 121-250	EPRI 121-250
172	0.2668	EPRI 121-250	EPRI 121-250
182	0.27494	EPRI 121-250	EPRI 121-250
192	0.28085	EPRI 121-250	EPRI 121-250
202	0.28228	EPRI 121-250	EPRI 121-250
212	0.28405	EPRI 121-250	EPRI 121-250
232	0.28833	EPRI 121-250	EPRI 121-250
252	0.29338	EPRI 121-250	EPRI 121-250
272	0.30666	EPRI 251-500	EPRI 251-500
292	0.29697	EPRI 251-500	EPRI 251-500
342	0.2871	EPRI 251-500	EPRI 251-500
402	0.30339	EPRI 251-500	EPRI 251-500
477	0.29888	EPRI501-100C	EPRI501-1000
577	0.28717	EPRI501-100C	EPRI501-1000
697	0.30301	EPRI501-100C	EPRI501-1000
832	0.31768	EPRI501-100C	EPRI501-1000
1032	0.33096		

Run 0202r; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.414 g
Amax =	.414 g
CSR Max =	0.346
CSR Min =	0.155

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.273
10	600.0	0.275
16	1,040.0	0.275
22	1,520.0	0.274
28	2,000.0	0.273
34	2,480.0	0.272
37	2,900.0	0.269
44	3,475.5	0.268
47	3,895.0	0.277
52	4,107.9	0.291
60	4,484.8	0.310
65	4,896.7	0.324
70	5,210.7	0.332
75	5,542.7	0.338
80	5,865.7	0.342
87	6,246.3	0.346
92	6,628.9	0.346
97	6,949.9	0.346
102	7,272.9	0.346
107	7,595.9	0.343
112	7,918.9	0.340
117	8,241.9	0.337
122	8,564.9	0.335
127	8,887.9	0.333
132	9,210.9	0.333
137	9,533.9	0.331
142	9,856.9	0.329
147	10,179.9	0.327
152	10,502.9	0.324
162	10,667.4	0.321
172	11,633.4	0.314
182	12,279.4	0.307
192	12,925.4	0.296
202	13,571.4	0.290
212	14,217.4	0.282
232	15,186.4	0.269
252	16,484.4	0.260
272	17,800.4	0.251
292	19,112.4	0.239
342	21,433.4	0.227
402	25,096.4	0.212
477	29,629.4	0.204
577	35,504.4	0.194
697	43,200.4	0.178
832	52,141.9	0.198
1032	64,167.4	0.185





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 3.27 sec
Average Shear Wave Velocity for Soil Column: 1284 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

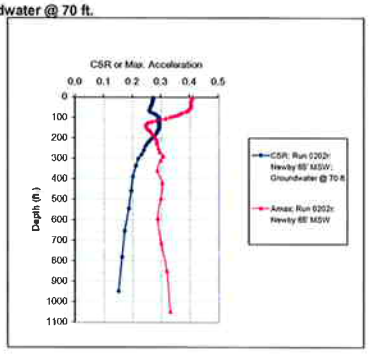
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.7	452.8	0.01834	83.03	426.9098	
2	7.5	0.08	9.4	482.4	0.0519	250.35	440.6427	
3	12.5	0.08	10.7	536.6	0.07778	417.34	464.7381	
4	17.5	0.08	11.5	595.8	0.09788	583.16	489.7035	
5	22.5	0.08	12.2	630.0	0.11654	747.5	503.802	
6	28	0.08	12.6	665.3	0.13314	925.78	529.0163	
7	34	0.08	13.1	735	0.15206	1117.6	543.6095	
8	40	0.08	13.4	803.6	0.16254	1306.24	568.7258	
9	46	0.08	13.7	844.7	0.17664	1492.12	583.0681	
10	52	0.08	13.9	888.8	0.18652	1675.54	598.1154	
11	58	0.09	13.6	1078.4	0.17338	1869.72	621.1502	
12	63	0.12	11.2	997.4	0.20744	2068.91	517.3352	
13	67.5	0.12	11.7	932.2	0.24367	2271.58	500.1403	
14	73.5	0.125	15.3	491.3	0.51379	2524.03	355.7612	
15	79.5	0.127	14.5	623.9	0.44694	2788.38	307.7256	
16	84.5	0.127	15	579.4	0.51618	2990.62	383.2793	
17	89.5	0.127	15.5	539.2	0.58988	3180.71	369.7439	
18	94.5	0.127	15.4	584.6	0.5659	3365.13	388.2742	
19	100.5	0.125	15.1	836	0.42735	3572.79	464.0621	
20	106.5	0.127	15.7	608.6	0.61722	3756.44	392.8188	
21	111.5	0.127	15.3	710.7	0.55078	3914.26	424.4917	
22	116.5	0.127	15.4	714.8	0.56733	4055.56	425.7144	
23	121.5	0.127	15.7	666.3	0.61038	4188.74	417.1412	
24	126.5	0.127	15.6	720.4	0.59371	4330.53	430.0401	
25	131.5	0.127	15.8	703.3	0.63715	4480.09	422.278	
26	136.5	0.127	16	676.5	0.68461	4631.68	414.1522	
27	141.5	0.127	16.2	650.5	0.73435	4776.83	406.1157	
28	146.5	0.127	14.9	1061.6	0.49161	4923.8	503.9335	
29	151.5	0.127	16.7	835.2	0.80406	5045.36	460.1732	
30	156.5	0.127	17.1	804.6	0.84226	5167.61	451.5648	
31	161.5	0.127	17.5	775.5	0.88103	5281.19	443.4217	
32	166.5	0.127	17.8	754.3	0.71402	5388.22	437.3188	
33	174	0.127	14.3	1116.4	0.49812	5561.06	532.0298	
34	184	0.127	14.7	1064.6	0.53808	5728.66	519.5403	
35	194	0.127	15.1	1025.4	0.57207	5865.69	509.8856	
36	204	0.127	15.4	994.4	0.60056	5971.9	502.110	
37	214	0.128	12.5	1873.6	0.32512	6091.54	686.533	
38	224	0.128	12.1	2044.8	0.30204	6176.03	717.2134	
39	239	0.128	12.4	1991.3	0.32031	6378.4	707.7688	
40	259	0.128	12.8	1899.3	0.35404	6724.12	691.2255	
41	279	0.128	12.3	2182	0.31924	6965.61	740.8842	
42	299	0.128	4.8	10208.5	0.06909	7052.96	1602.522	
43	334	0.128	8.1	4054.1	0.18583	7533.95	1009.881	
44	389	0.129	7.999001	4590.2	0.17096	8260.75	1070.407	
45	456.5	0.13	7.5	5611.1	0.15743	9394.49	1178.909	
46	544	0.131	4.9	8040.5	0.13319	10709.48	1405.833	
47	654	0.132	5	8843.5	0.13504	11942.3	1468.788	
48	781.5	0.133	5	9769.8	0.13912	13591.84	1537.96	
49	949	0.135	3.7	19511.2	0.07874	15362.69	2157.283	
50	Base							

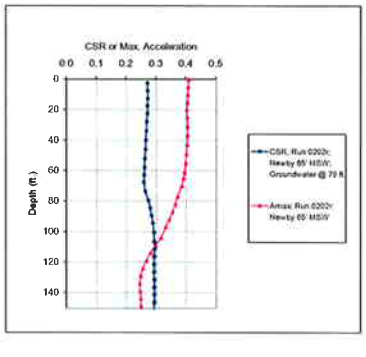
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.40703	Wasle (K&M)	Wasle (K&M)
5	0.40652	Wasle (K&M)	Wasle (K&M)
10	0.40518	Wasle (K&M)	Wasle (K&M)
15	0.40347	Wasle (K&M)	Wasle (K&M)
20	0.40198	Wasle (K&M)	Wasle (K&M)
25	0.4024	Wasle (K&M)	Wasle (K&M)
31	0.40334	Wasle (K&M)	Wasle (K&M)
37	0.40345	Wasle (K&M)	Wasle (K&M)
43	0.40268	Wasle (K&M)	Wasle (K&M)
49	0.40092	Wasle (K&M)	Wasle (K&M)
55	0.39818	Wasle (K&M)	Wasle (K&M)
61	0.39474	Clay PI=22	Clay PI=22
65	0.39147	Clay PI=22	Clay PI=22
70	0.38617	Sand Upper	Sand lower
77	0.37227	Clay PI=19	Clay PI=19
82	0.36407	Clay PI=19	Clay PI=19
87	0.3547	Clay PI=19	Clay PI=19
92	0.34344	Clay PI=19	Clay PI=19
97	0.331	EPRI 51-120'	EPRI 51-120'
104	0.31492	Clay PI=19	Clay PI=19
109	0.29668	Clay PI=19	Clay PI=19
114	0.28131	Clay PI=19	Clay PI=19
119	0.26668	Clay PI=19	Clay PI=19
124	0.25508	Clay PI=19	Clay PI=19
129	0.24799	Clay PI=19	Clay PI=19
134	0.24609	Clay PI=19	Clay PI=19
139	0.24547	Clay PI=19	Clay PI=19
144	0.24778	Clay PI=19	Clay PI=19
149	0.24918	EPRI 51-120'	EPRI 51-120'
154	0.25215	EPRI 51-120'	EPRI 51-120'
159	0.25568	EPRI 51-120'	EPRI 51-120'
164	0.26007	EPRI 51-120'	EPRI 51-120'
169	0.26428	EPRI 121-250	EPRI 121-250
174	0.2677	EPRI 121-250	EPRI 121-250
189	0.27449	EPRI 121-250	EPRI 121-250
199	0.28002	EPRI 121-250	EPRI 121-250
209	0.28435	EPRI 121-250	EPRI 121-250
219	0.28423	EPRI 121-250	EPRI 121-250
229	0.28547	EPRI 121-250	EPRI 121-250
249	0.28848	EPRI 121-250	EPRI 121-250
269	0.29351	EPRI 121-250	EPRI 121-250
289	0.30618	EPRI 251-500	EPRI 251-500
309	0.29735	EPRI 251-500	EPRI 251-500
359	0.28617	EPRI 251-500	EPRI 251-500
419	0.30304	EPRI 251-500	EPRI 251-500
494	0.29684	EPRI501-100C	EPRI501-1000
594	0.28684	EPRI501-100C	EPRI501-1000
714	0.29956	EPRI501-100C	EPRI501-1000
849	0.31865	EPRI501-100C	EPRI501-1000
1049	0.33113		

Run 0202r; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.407 g
Amax =	.407 g
CSR Max =	0.293
CSR Min =	0.164

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.270
10	600.0	0.271
15	1,000.0	0.271
20	1,400.0	0.271
25	1,800.0	0.270
31	2,240.0	0.269
37	2,720.0	0.267
43	3,200.0	0.265
49	3,680.0	0.264
55	4,160.0	0.262
61	4,670.0	0.260
65	5,180.0	0.260
70	5,720.0	0.258
77	6,230.1	0.263
82	6,619.7	0.274
87	6,942.7	0.280
92	7,265.7	0.285
97	7,588.7	0.288
104	7,989.3	0.291
109	8,349.9	0.292
114	8,672.9	0.293
119	8,995.9	0.293
124	9,318.9	0.292
129	9,641.9	0.292
134	9,964.9	0.292
139	10,287.9	0.293
144	10,610.9	0.293
149	10,933.9	0.293
154	11,258.9	0.291
159	11,579.9	0.290
164	11,902.9	0.288
169	12,225.9	0.286
179	12,710.4	0.284
189	13,356.4	0.279
199	14,002.4	0.272
209	14,646.4	0.265
219	15,209.4	0.259
229	15,855.4	0.252
249	16,939.4	0.245
269	18,251.4	0.239
289	19,563.4	0.231
309	20,875.4	0.220
359	23,171.4	0.211
419	26,609.4	0.200
494	31,342.4	0.195
594	37,307.4	0.187
714	44,913.4	0.173
849	53,654.9	0.164
1049	66,880.4	0.152





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3.36 sec
Average Shear Wave Velocity for Soil Column: 1267 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

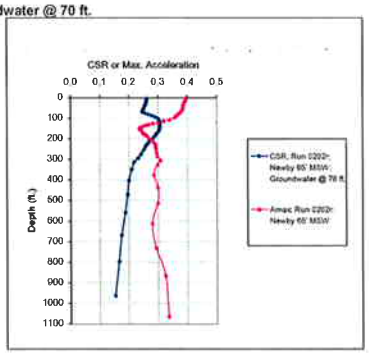
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	8.8	453.1	0.01765	79.98	427.0512	
2	8	0.08	9.3	504.4	0.05089	256.69	450.5785	
3	14	0.08	10.8	557.8	0.08039	448.41	473.8266	
4	20	0.08	11.7	614.9	0.10374	637.92	497.491	
5	28	0.08	12.3	676.3	0.12192	824.53	521.7382	
6	32	0.08	12.9	715.2	0.14092	1007.82	536.5333	
7	38	0.08	13.1	785.8	0.15118	1187.69	562.3202	
8	44	0.08	13.5	828	0.16518	1384.35	576.6978	
9	50	0.09	13.1	1039.7	0.14909	1550.09	609.9029	
10	56	0.09	13.4	1091.8	0.15075	1743.84	624.9402	
11	62	0.09	13.6	1146.4	0.16883	1935.56	640.4346	
12	68	0.09	13.7	1204.2	0.17648	2125.18	656.381	
13	74	0.09	13.9	1264.9	0.18281	2312.34	672.7207	
14	80	0.09	14	1328.5	0.18704	2496.69	689.4257	
15	86	0.09	14.1	1394.9	0.19197	2677.81	706.4448	
16	92	0.09	14.1	1464.1	0.19502	2855.29	723.7558	
17	99.5	0.12	13.9	700.2	0.445	3118.09	433.4584	
18	107.5	0.127	16.3	457.6	0.73777	3376.41	340.8192	
19	114.5	0.125	16.6	617.8	0.58329	3603.44	398.9302	
20	120.5	0.127	16.4	496.7	0.76334	3791.52	354.8732	
21	125.5	0.127	15.9	565.1	0.66333	3947.22	388.4374	
22	130.5	0.127	16	600	0.68287	4097.34	390.0333	
23	135.5	0.127	16.3	572.2	0.74303	4251.94	380.8904	
24	140.5	0.127	16.2	611.6	0.72073	4407.84	393.7856	
25	145.5	0.127	16.4	584.1	0.78	4555.88	384.8307	
26	150.5	0.127	16.7	556.7	0.8435	4696.1	375.6961	
27	155.5	0.127	16.9	535.2	0.902	4827.31	368.3699	
28	160.5	0.127	15.4	867	0.57233	4952.24	468.8518	
29	165.5	0.127	17.8	709.4	0.71321	5059.34	424.1033	
30	170.5	0.127	18	690.4	0.74807	5164.85	418.3853	
31	175.5	0.127	18.2	672.8	0.78169	5261.55	413.0181	
32	180.5	0.127	18.5	656.4	0.81612	5346.6	407.8424	
33	188	0.127	15	971.1	0.66717	5507.83	496.2015	
34	198	0.127	15.4	935.9	0.60256	5639.46	487.1254	
35	208	0.127	15.7	911.1	0.63036	5743.43	480.628	
36	218	0.127	15.9	891.4	0.66023	5885.01	475.4035	
37	228	0.127	12.9	1677.1	0.35827	6008.43	652.087	
38	238	0.127	12.4	1910.9	0.32304	6173.03	696.0574	
39	253	0.127	12.7	1844.1	0.34701	6415.61	683.783	
40	273	0.128	13	1780.5	0.37488	6671.27	669.2585	
41	293	0.128	12.5	2055.5	0.33292	6843.12	719.0674	
42	313	0.128	4.8	9838	0.07	6888.76	1573.172	
43	348	0.129	8.1	3966.2	0.18616	7383.41	994.9938	
44	403	0.129	8	4429.5	0.18427	8162.26	1061.503	
45	470.5	0.13	7.5	5515.7	0.16963	9356.11	1188.844	
46	558	0.131	5	7815.2	0.13493	10680.02	1394.836	
47	668	0.132	5	8666.9	0.13789	11996.56	1456.794	
48	795.5	0.133	5.1	9471.3	0.14409	13647.53	1514.282	
49	963	0.135	3.7	19472.8	0.07826	15433.16	2155.139	
50	Base							

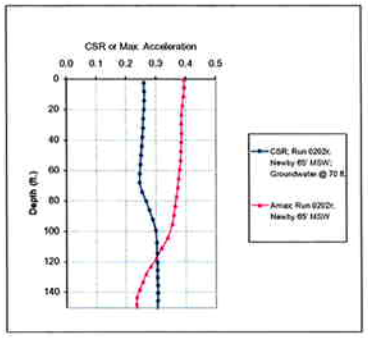
Layer	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.39325	Waste (K&M)	Waste (K&M)
5	0.39264	Waste (K&M)	Waste (K&M)
11	0.39062	Waste (K&M)	Waste (K&M)
17	0.38783	Waste (K&M)	Waste (K&M)
23	0.38508	Waste (K&M)	Waste (K&M)
29	0.38395	Waste (K&M)	Waste (K&M)
35	0.38412	Waste (K&M)	Waste (K&M)
41	0.38391	Waste (K&M)	Waste (K&M)
47	0.38294	Waste (K&M)	Waste (K&M)
53	0.38124	Waste (K&M)	Waste (K&M)
59	0.37872	Waste (K&M)	Waste (K&M)
65	0.37546	Waste (K&M)	Waste (K&M)
71	0.37161	Waste (K&M)	Waste (K&M)
77	0.36738	Waste (K&M)	Waste (K&M)
83	0.36299	Waste (K&M)	Waste (K&M)
89	0.35854	Waste (K&M)	Waste (K&M)
95	0.35399	Clay PI=22	Clay PI=22
104	0.33878	Clay PI=19	Clay PI=19
111	0.31836	EPRI 51-120'	EPRI 51-120'
118	0.29989	Clay PI=19	Clay PI=19
123	0.28182	Clay PI=19	Clay PI=19
128	0.26648	Clay PI=19	Clay PI=19
133	0.25515	Clay PI=19	Clay PI=19
138	0.24448	Clay PI=19	Clay PI=19
143	0.23493	Clay PI=19	Clay PI=19
148	0.2343	Clay PI=19	Clay PI=19
153	0.23734	Clay PI=19	Clay PI=19
158	0.24361	Clay PI=19	Clay PI=19
163	0.24562	EPRI 51-120'	EPRI 51-120'
168	0.24715	EPRI 51-120'	EPRI 51-120'
173	0.2504	EPRI 51-120'	EPRI 51-120'
178	0.25514	EPRI 51-120'	EPRI 51-120'
183	0.26066	EPRI 121-250	EPRI 121-250
193	0.2677	EPRI 121-250	EPRI 121-250
203	0.27762	EPRI 121-250	EPRI 121-250
213	0.28417	EPRI 121-250	EPRI 121-250
223	0.29031	EPRI 121-250	EPRI 121-250
233	0.29085	EPRI 121-250	EPRI 121-250
243	0.2913	EPRI 121-250	EPRI 121-250
263	0.29331	EPRI 121-250	EPRI 121-250
283	0.29711	EPRI 121-250	EPRI 121-250
303	0.30787	EPRI 251-500	EPRI 251-500
323	0.29782	EPRI 251-500	EPRI 251-500
373	0.28491	EPRI 251-500	EPRI 251-500
433	0.29961	EPRI 251-500	EPRI 251-500
508	0.2992	EPRI501-1000	EPRI501-1000
608	0.27983	EPRI501-1000	EPRI501-1000
728	0.29274	EPRI501-1000	EPRI501-1000
863	0.32382	EPRI501-1000	EPRI501-1000
1063	0.33486		

Run 0202r; Newby 95' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.393 g
Amax =	.393 g
CSR Max =	0.305
CSR Min =	0.165

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.260
11	640.0	0.261
17	1,120.0	0.260
23	1,600.0	0.259
29	2,080.0	0.258
35	2,560.0	0.256
41	3,040.0	0.254
47	3,520.0	0.252
53	4,030.0	0.250
59	4,570.0	0.248
65	5,110.0	0.246
71	5,650.0	0.244
77	5,940.4	0.253
83	6,106.0	0.266
89	6,271.6	0.278
95	6,437.2	0.288
104	6,779.2	0.299
111	7,264.5	0.302
118	7,709.7	0.304
123	8,090.3	0.305
128	8,413.3	0.305
133	8,736.3	0.305
138	9,059.3	0.305
143	9,382.3	0.305
148	9,705.3	0.305
153	10,028.3	0.304
158	10,351.3	0.303
163	10,674.3	0.302
168	10,997.3	0.299
173	11,320.3	0.297
178	11,643.3	0.294
183	11,966.3	0.291
193	12,450.8	0.288
203	13,096.8	0.280
213	13,742.8	0.272
223	14,388.8	0.266
233	15,034.8	0.260
243	15,680.8	0.256
263	16,649.8	0.250
283	17,951.8	0.242
303	19,253.8	0.231
323	20,575.8	0.218
373	22,866.8	0.210
433	26,659.8	0.200
508	31,062.8	0.190
608	37,067.8	0.187
728	44,063.8	0.175
863	53,605.3	0.165
1063	65,830.8	0.153





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.66 sec
Average Shear Wave Velocity for Soil Column: 1214 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

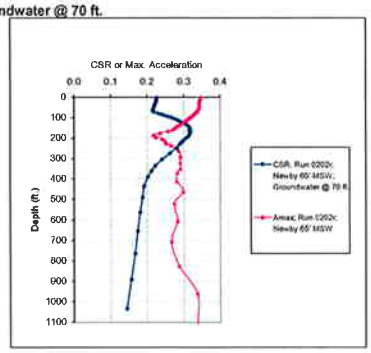
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.3	454.5	0.01534	69.7	427.7105	
2	7.5	0.08	8.900001	485.5	0.04306	209.08	442.0583	
3	12.5	0.08	10.1	541.7	0.06416	347.58	466.9414	
4	17.5	0.08	10.9	603.9	0.08031	484.95	493.0211	
5	22.5	0.08	11.5	642.6	0.09662	620.88	508.673	
6	27.5	0.08	11.9	719.3	0.10635	765.38	534.6822	
7	32.5	0.08	12.3	753.7	0.11787	886.34	550.7852	
8	37.5	0.08	12.5	799.8	0.1276	1019.79	567.3795	
9	42.5	0.08	12.8	848.4	0.13553	1149.85	584.3638	
10	47.5	0.09	12.5	1025.5	0.12562	1288.25	605.7236	
11	52.5	0.09	12.7	1084.8	0.13207	1432.61	622.9907	
12	57.5	0.09	13	1108.7	0.1421	1575.51	629.816	
13	62.5	0.09	13.1	1171.6	0.14064	1718.02	647.4352	
14	67.5	0.09	13.2	1235.2	0.15055	1859.52	664.7756	
15	72.5	0.09	13.3	1301	0.15372	1999.89	682.2528	
16	77.5	0.09	13.5	1325.6	0.16128	2138.03	688.6728	
17	82.5	0.09	13.5	1395.6	0.16305	2275.6	706.622	
18	87.5	0.09	13.6	1423	0.16938	2410.28	713.5249	
19	93	0.09	13.7	1495.4	0.17103	2557.54	731.4512	
20	99	0.09	13.7	1568.8	0.17308	2715.29	749.1874	
21	105	0.09	13.8	1645	0.17449	2870.36	767.1965	
22	111	0.09	13.9	1675.1	0.18036	3021.17	774.1534	
23	117	0.09	13.9	1755.8	0.18061	3170.79	792.5369	
24	123	0.09	13.9	1838.8	0.18043	3317.84	811.0991	
25	130	0.09	14	1870.4	0.18628	3484.1	818.0388	
26	138	0.09	14	1952.4	0.18808	3672.04	835.7783	
27	146	0.09	14	2037.2	0.18935	3857.46	853.7358	
28	154	0.12	15.1	662.7	0.61225	4057.47	421.6924	
29	161.5	0.125	20.3	397.6	1.15132	4232.72	307.7235	
30	170	0.127	17.3	448.7	1.01167	4539.1	337.2905	
31	180	0.127	17.2	492.3	0.98119	4830.12	353.2979	
32	190	0.127	17.3	511.3	0.99401	5082.3	360.051	
33	200	0.127	17.6	477.9	1.10062	5288.65	348.0924	
34	210	0.127	18.9	621	0.87707	5446.72	396.8002	
35	220	0.127	19.1	624.3	0.90387	5642.65	397.8531	
36	230	0.127	19.4	596.3	0.98053	5847.13	388.8288	
37	247.5	0.127	16	900.7	0.60362	6157.57	477.877	
38	276	0.127	14.2	1334.3	0.48555	6478.74	581.6381	
39	305	0.128	13.1	1796.2	0.3722	6685.47	672.2028	
40	335	0.128	13	1923.8	0.35583	6844.63	695.6332	
41	360	0.128	4.9	9860.5	0.07147	7046.91	1574.97	
42	390	0.128	8.299999	3874.8	0.18023	7332.41	987.2965	
43	435	0.129	8.5	3892.8	0.20121	7832.6	985.744	
44	490	0.128	7.2	5621.1	0.15905	8715.71	1184.524	
45	562.5	0.13	7.7	5667.9	0.1722	9780.02	1184.861	
46	655	0.131	5	8143.9	0.13875	11136.41	1414.844	
47	785	0.132	5	9183.6	0.13738	12818.29	1496.744	
48	892.5	0.133	5.1	9915.8	0.14105	13986.59	1549.409	
49	1035	0.135	3.7	19476.3	0.07826	15241.8	2155.333	
50	Base							

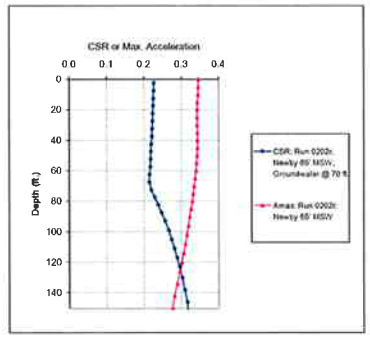
Layer	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.34557	Waste (K&M)	Waste (K&M)
5	0.34517	Waste (K&M)	Waste (K&M)
10	0.34416	Waste (K&M)	Waste (K&M)
15	0.34293	Waste (K&M)	Waste (K&M)
20	0.34196	Waste (K&M)	Waste (K&M)
25	0.34178	Waste (K&M)	Waste (K&M)
30	0.34228	Waste (K&M)	Waste (K&M)
35	0.3427	Waste (K&M)	Waste (K&M)
40	0.34279	Waste (K&M)	Waste (K&M)
45	0.34247	Waste (K&M)	Waste (K&M)
50	0.34175	Waste (K&M)	Waste (K&M)
55	0.34056	Waste (K&M)	Waste (K&M)
60	0.3380	Waste (K&M)	Waste (K&M)
65	0.33683	Waste (K&M)	Waste (K&M)
70	0.33446	Waste (K&M)	Waste (K&M)
75	0.33181	Waste (K&M)	Waste (K&M)
80	0.32889	Waste (K&M)	Waste (K&M)
85	0.32584	Waste (K&M)	Waste (K&M)
90	0.32263	Waste (K&M)	Waste (K&M)
96	0.31869	Waste (K&M)	Waste (K&M)
102	0.31463	Waste (K&M)	Waste (K&M)
108	0.3104	Waste (K&M)	Waste (K&M)
114	0.30585	Waste (K&M)	Waste (K&M)
120	0.30108	Waste (K&M)	Waste (K&M)
126	0.29606	Waste (K&M)	Waste (K&M)
134	0.28877	Waste (K&M)	Waste (K&M)
142	0.28099	Waste (K&M)	Waste (K&M)
150	0.27622	Clay PI=22	Clay PI=22
158	0.27002	EPRI 51-120'	EPRI 51-120'
165	0.25741	Clay PI=19	Clay PI=19
175	0.23538	Clay PI=19	Clay PI=19
185	0.21641	Clay PI=19	Clay PI=19
195	0.2247	Clay PI=19	Clay PI=19
205	0.2416	EPRI 51-120'	EPRI 51-120'
215	0.24946	EPRI 51-120'	EPRI 51-120'
225	0.2515	EPRI 51-120'	EPRI 51-120'
235	0.26615	EPRI 121-250	EPRI 121-250
260	0.28546	EPRI 121-250	EPRI 121-250
290	0.29058	EPRI 121-250	EPRI 121-250
320	0.29026	EPRI 121-250	EPRI 121-250
350	0.29117	EPRI 251-500	EPRI 251-500
370	0.28215	EPRI 251-500	EPRI 251-500
410	0.28009	EPRI 251-500	EPRI 251-500
460	0.29864	EPRI 251-500	EPRI 251-500
520	0.2744	EPRI 251-500	EPRI 251-500
605	0.2828	EPRI501-1000	EPRI501-1000
705	0.26665	EPRI501-1000	EPRI501-1000
825	0.28714	EPRI501-1000	EPRI501-1000
960	0.33683	EPRI501-1000	EPRI501-1000
1110	0.33785		

Run 0202r; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.346 g
Amax =	.346 g
CSR Max =	0.318
CSR Min =	0.157

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.227
10	600.0	0.229
15	1,000.0	0.229
20	1,400.0	0.226
25	1,800.0	0.224
30	2,200.0	0.223
35	2,600.0	0.222
40	3,000.0	0.221
45	3,400.0	0.220
50	3,825.0	0.219
55	4,275.0	0.218
60	4,725.0	0.217
65	5,175.0	0.216
70	5,625.0	0.215
75	5,919.0	0.220
80	6,057.0	0.229
85	6,195.0	0.239
90	6,333.0	0.247
96	6,484.8	0.256
102	6,650.4	0.265
108	6,816.0	0.274
114	6,981.6	0.281
120	7,147.2	0.288
126	7,312.8	0.295
134	7,506.0	0.302
142	7,726.8	0.309
150	7,947.6	0.315
158	8,288.4	0.318
165	8,737.9	0.315
175	9,280.0	0.318
185	9,926.0	0.316
195	10,572.0	0.312
205	11,218.0	0.306
215	11,864.0	0.298
225	12,510.0	0.293
235	13,156.0	0.289
260	14,296.5	0.280
290	16,063.0	0.262
320	18,018.0	0.241
350	19,984.0	0.223
370	21,624.0	0.212
410	23,592.0	0.202
460	26,569.0	0.192
520	30,232.0	0.187
605	35,103.0	0.181
705	41,406.0	0.175
825	49,012.0	0.167
960	57,953.5	0.157
1110	68,164.0	0.145





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.71 sec
Average Shear Wave Velocity for Soil Column: 1227 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

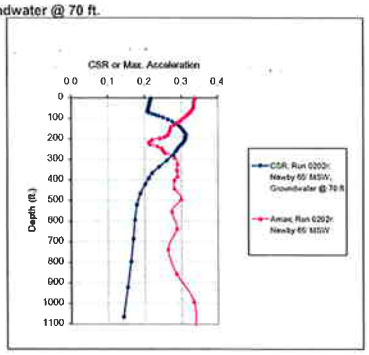
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.2	454.9	0.0146	66.4	427.8987	
2	7.5	0.08	8.8	486.1	0.04089	198.77	442.3293	
3	12.5	0.08	10	543.2	0.06082	330.42	467.5874	
4	17.5	0.08	10.7	605.5	0.07617	461.24	493.8737	
5	22.5	0.08	11.3	646	0.09149	591.02	509.9187	
6	27.5	0.08	11.7	713.9	0.10083	719.85	536.0455	
7	32.5	0.08	12.1	757.5	0.11189	847.59	552.1719	
8	37.5	0.08	12.4	803.6	0.1212	974.21	568.7966	
9	42.5	0.08	12.6	852.5	0.12902	1099.96	585.774	
10	47.5	0.09	12.3	1030.2	0.11984	1234.6	607.11	
11	52.5	0.09	12.5	1089.6	0.12618	1374.78	624.3674	
12	57.5	0.09	12.7	1151.4	0.1315	1514.17	641.8297	
13	62.5	0.09	12.9	1176.9	0.14035	1651.76	648.8981	
14	67.5	0.09	13	1242.4	0.14399	1789.02	666.7107	
15	72.5	0.09	13.2	1267.2	0.15181	1923.79	673.332	
16	77.5	0.09	13.3	1335.1	0.15415	2058.05	691.1361	
17	82.5	0.09	13.3	1405.5	0.15586	2190.69	709.1238	
18	87.5	0.09	13.5	1433.2	0.1619	2320.24	716.0776	
19	95	0.09	13.6	1499.6	0.16746	2511.36	732.4777	
20	105	0.09	13.7	1609.1	0.17161	2769.83	758.7491	
21	115	0.09	13.8	1725	0.17302	3009.15	785.6995	
22	125	0.09	13.8	1847.3	0.17501	3232.93	812.9716	
23	135	0.105	13.2	2315.4	0.15068	3458.96	842.6482	
24	145	0.105	13.2	2470.2	0.15167	3746.59	870.3608	
25	155	0.105	13.3	2566.4	0.15581	3998.65	887.1467	
26	165	0.105	13.3	2732.6	0.15571	4255.04	915.422	
27	175	0.105	13.3	2904	0.15567	4520.72	943.6649	
28	184	0.12	15.4	705.8	0.57307	4750.33	435.1892	
29	191.5	0.125	20.3	418.1	1.17123	4896.69	328.1807	
30	200	0.127	17.2	524.6	0.98884	5187.26	384.7037	
31	210	0.127	17.3	545.9	0.99702	5442.37	372.034	
32	220	0.127	17.1	604.5	0.93792	5669.56	391.4932	
33	230	0.127	17.4	573.3	1.02135	5855.06	381.2583	
34	240	0.127	18.9	693	0.88978	6027.13	419.1724	
35	250	0.127	18.9	699.5	0.89191	6238.7	421.1336	
36	260	0.127	19.2	672.8	0.95738	6441.08	413.0181	
37	277.5	0.127	15.9	1005	0.6714	6747.62	504.7881	
38	305	0.127	14.2	1475.9	0.47844	7093.97	611.7229	
39	335	0.128	13.2	1903.1	0.37766	7187.32	691.9186	
40	365	0.128	13	2050.8	0.35576	7295.98	718.2048	
41	390	0.128	4.9	10488.7	0.07168	7518.88	1624.366	
42	420	0.128	8.299999	4109.2	0.1805	7786.91	1016.721	
43	465	0.129	8.5	4052.4	0.20058	8128.43	1005.748	
44	520	0.129	7	6036.5	0.14453	8724.76	1227.512	
45	592.5	0.13	7.4	5995.7	0.16269	9772.47	1219.842	
46	665	0.131	4.9	8519.2	0.13058	11124.32	1447.077	
47	795	0.132	4.9	8583.2	0.13176	12626.97	1528.98	
48	922.5	0.133	5	10195.5	0.13724	13992.51	1571.109	
49	1065	0.135	3.7	19485.4	0.07808	15214.27	2155.836	
50	Base							

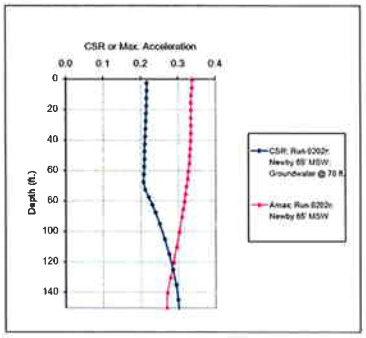
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.3364	Wasle (K&M)	Wasle (K&M)
5	0.33584	Wasle (K&M)	Wasle (K&M)
10	0.33443	Wasle (K&M)	Wasle (K&M)
15	0.33311	Wasle (K&M)	Wasle (K&M)
20	0.3331	Wasle (K&M)	Wasle (K&M)
25	0.33338	Wasle (K&M)	Wasle (K&M)
30	0.33341	Wasle (K&M)	Wasle (K&M)
35	0.33313	Wasle (K&M)	Wasle (K&M)
40	0.3325	Wasle (K&M)	Wasle (K&M)
45	0.33162	Wasle (K&M)	Wasle (K&M)
50	0.33029	Wasle (K&M)	Wasle (K&M)
55	0.32809	Wasle (K&M)	Wasle (K&M)
60	0.32673	Wasle (K&M)	Wasle (K&M)
65	0.3244	Wasle (K&M)	Wasle (K&M)
70	0.32179	Wasle (K&M)	Wasle (K&M)
75	0.3189	Wasle (K&M)	Wasle (K&M)
80	0.31584	Wasle (K&M)	Wasle (K&M)
85	0.31269	Wasle (K&M)	Wasle (K&M)
90	0.30937	Wasle (K&M)	Wasle (K&M)
100	0.3024	Wasle (K&M)	Wasle (K&M)
110	0.29502	Wasle (K&M)	Wasle (K&M)
120	0.287	Wasle (K&M)	Wasle (K&M)
130	0.27832	Wasle (K&M)	Wasle (K&M)
140	0.27021	Wasle (K&M)	Wasle (K&M)
150	0.26848	Wasle (K&M)	Wasle (K&M)
160	0.26653	Wasle (K&M)	Wasle (K&M)
170	0.26416	Wasle (K&M)	Wasle (K&M)
180	0.26151	Clay PI=22	Clay PI=22
188	0.25292	EPRI 51-120'	EPRI 51-120'
195	0.2401	Clay PI=19	Clay PI=19
205	0.21784	Clay PI=19	Clay PI=19
215	0.20926	Clay PI=19	Clay PI=19
225	0.21404	Clay PI=19	Clay PI=19
235	0.23464	EPRI 51-120'	EPRI 51-120'
245	0.24643	EPRI 51-120'	EPRI 51-120'
255	0.24993	EPRI 51-120'	EPRI 51-120'
265	0.25365	EPRI 121-250	EPRI 121-250
290	0.28096	EPRI 121-250	EPRI 121-250
320	0.2888	EPRI 121-250	EPRI 121-250
350	0.28718	EPRI 121-250	EPRI 121-250
380	0.28913	EPRI 251-500	EPRI 251-500
400	0.2801	EPRI 251-500	EPRI 251-500
440	0.28078	EPRI 251-500	EPRI 251-500
490	0.28829	EPRI 251-500	EPRI 251-500
550	0.2735	EPRI 251-500	EPRI 251-500
635	0.28754	EPRI501-100C	EPRI501-1000
735	0.28281	EPRI501-100C	EPRI501-1000
855	0.28541	EPRI501-100C	EPRI501-1000
990	0.33389	EPRI501-100C	EPRI501-1000
1140	0.33789		

Run 0202r; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.338 g
Amax =	.338 g
CSR Max =	0.313
CSR Min =	0.153

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.216
10	600.0	0.215
15	1,000.0	0.215
20	1,400.0	0.214
25	1,800.0	0.213
30	2,200.0	0.213
35	2,600.0	0.212
40	3,000.0	0.211
45	3,400.0	0.210
50	3,825.0	0.210
55	4,275.0	0.209
60	4,725.0	0.208
65	5,175.0	0.207
70	5,625.0	0.207
75	5,919.0	0.211
80	6,057.0	0.221
85	6,195.0	0.230
90	6,333.0	0.238
100	6,540.0	0.250
110	6,816.0	0.263
120	7,092.0	0.275
130	7,368.0	0.285
140	7,719.0	0.294
150	8,145.0	0.299
160	8,571.0	0.303
170	8,997.0	0.307
180	9,423.0	0.312
188	9,868.4	0.313
195	10,315.9	0.309
205	10,858.0	0.311
215	11,504.0	0.308
225	12,150.0	0.303
235	12,796.0	0.297
245	13,442.0	0.291
255	14,088.0	0.288
265	14,734.0	0.284
290	15,864.5	0.278
320	17,641.0	0.250
350	19,594.0	0.238
380	21,562.0	0.220
400	23,202.0	0.211
440	25,170.0	0.201
490	28,147.0	0.188
550	31,810.0	0.178
635	36,881.0	0.173
735	42,984.0	0.168
855	50,560.0	0.162
990	59,531.5	0.153
1140	69,742.0	0.142





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.83 sec
Average Shear Wave Velocity for Soil Column: 1233 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

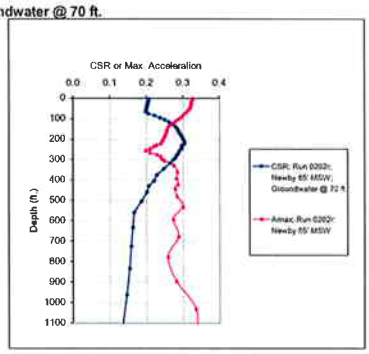
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	6.1	455	0.01396	63.51	427.9457	
2	7.5	0.08	8.7	486.8	0.03898	189.67	442.5568	
3	12.5	0.08	9.8	544.5	0.05785	314.99	468.1466	
4	17.5	0.08	10.8	607	0.0724	439.47	494.2849	
5	22.5	0.08	11.2	648.7	0.08877	562.91	510.9812	
6	27.5	0.08	11.5	717.3	0.09556	685.65	537.3204	
7	32.5	0.08	11.9	761.2	0.10605	807.21	553.5187	
8	37.5	0.08	12.2	807.7	0.11489	927.96	570.1747	
9	42.5	0.09	12	876.4	0.10828	1057.32	591.045	
10	47.5	0.09	12.2	1033.6	0.11531	1191.83	608.1111	
11	55	0.09	12.6	1086.9	0.128	1391.27	623.5933	
12	65	0.09	13	1175.4	0.14064	1653.11	648.4844	
13	75	0.09	13.1	1309.8	0.14582	1910.06	684.5583	
14	85	0.09	13.3	1407.2	0.1534	2158.77	709.5526	
15	95	0.09	13.4	1511.5	0.15877	2399.8	735.3782	
16	105	0.09	13.5	1622.4	0.16227	2632.67	761.8784	
17	115	0.09	13.6	1739.9	0.16423	2857.47	788.8852	
18	125	0.09	13.8	1863.8	0.16498	3074.39	816.5043	
19	135	0.105	13	2331.6	0.14214	3314.15	845.5609	
20	145	0.105	13	2488.9	0.14273	3552.26	873.649	
21	155	0.105	13.1	2560.7	0.146	3782.46	891.3380	
22	165	0.105	13.1	2758.7	0.14541	4011.81	919.7833	
23	175	0.105	13	2932.7	0.14476	4245.44	948.3467	
24	185	0.105	13.1	3044	0.14756	4491.78	966.1746	
25	195	0.105	13.2	3153.9	0.1503	4740.44	983.4612	
26	205	0.105	13.1	3341.3	0.14931	4988.9	1012.258	
27	215	0.105	13.2	3456.7	0.1513	5232.99	1029.887	
28	224	0.12	15.6	766.4	0.71623	5417.34	450.519	
29	231.5	0.125	20.8	425.2	1.29134	5490.08	330.6555	
30	240	0.127	17.6	520.3	1.1085	5767.2	363.206	
31	250	0.127	17.4	561.8	1.02821	5982.05	384.0722	
32	260	0.127	17.3	619	1.00035	6192.48	396.1607	
33	270	0.127	17.5	593.3	1.07982	6406.95	387.8495	
34	280	0.127	19	738.5	0.89382	6601.89	432.7144	
35	290	0.127	19.3	706.9	0.95907	6780.13	423.3554	
36	300	0.127	19.6	677.8	1.02146	6923.8	414.5499	
37	317.5	0.127	16.1	1040.2	0.69007	7178.26	513.5521	
38	345	0.127	14.5	1457.3	0.50457	7353.15	607.8558	
39	375	0.128	13.2	1987.8	0.37608	7475.37	707.1464	
40	405	0.128	13.2	2087.8	0.38187	7698.38	721.2357	
41	430	0.128	4.9	10936	0.07246	7924.48	1658.64	
42	460	0.128	8.4	4244.8	0.19928	8332.05	1033.36	
43	505	0.129	8.7	4183	0.20485	8568.65	1021.826	
44	560	0.129	6.9	6221.7	0.13707	8584.2	1246.2	
45	632.5	0.13	7.2	6244.4	0.15368	9596.24	1243.66	
46	725	0.131	4.8	8818.3	0.12334	10878.87	1472.261	
47	835	0.132	4.9	9766.2	0.12871	12374.92	1543.49	
48	962.5	0.133	4.9	10526.5	0.13072	13760.29	1596.409	
49	1105	0.135	3.8	19573.9	0.07815	14904.82	2160.726	
50	Base							

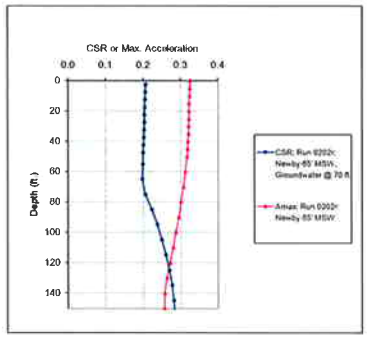
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.32451	Wasle (K&M)	Wasle (K&M)
5	0.32403	Wasle (K&M)	Wasle (K&M)
10	0.32282	Wasle (K&M)	Wasle (K&M)
15	0.32172	Wasle (K&M)	Wasle (K&M)
20	0.32147	Wasle (K&M)	Wasle (K&M)
25	0.32136	Wasle (K&M)	Wasle (K&M)
30	0.32105	Wasle (K&M)	Wasle (K&M)
35	0.32039	Wasle (K&M)	Wasle (K&M)
40	0.31939	Wasle (K&M)	Wasle (K&M)
45	0.31814	Wasle (K&M)	Wasle (K&M)
50	0.31653	Wasle (K&M)	Wasle (K&M)
60	0.31216	Wasle (K&M)	Wasle (K&M)
70	0.30663	Wasle (K&M)	Wasle (K&M)
80	0.30051	Wasle (K&M)	Wasle (K&M)
90	0.29393	Wasle (K&M)	Wasle (K&M)
100	0.28696	Wasle (K&M)	Wasle (K&M)
110	0.27952	Wasle (K&M)	Wasle (K&M)
120	0.27144	Wasle (K&M)	Wasle (K&M)
130	0.26277	Wasle (K&M)	Wasle (K&M)
140	0.2565	Wasle (K&M)	Wasle (K&M)
150	0.25546	Wasle (K&M)	Wasle (K&M)
160	0.25381	Wasle (K&M)	Wasle (K&M)
170	0.25174	Wasle (K&M)	Wasle (K&M)
180	0.24935	Wasle (K&M)	Wasle (K&M)
190	0.24669	Wasle (K&M)	Wasle (K&M)
200	0.24385	Wasle (K&M)	Wasle (K&M)
210	0.2409	Wasle (K&M)	Wasle (K&M)
220	0.23771	Clay PI=22	Clay PI=22
228	0.22567	EPRI 51-120'	EPRI 51-120'
235	0.21811	Clay PI=19	Clay PI=19
245	0.20905	Clay PI=19	Clay PI=19
255	0.19642	Clay PI=19	Clay PI=19
265	0.20831	Clay PI=19	Clay PI=19
275	0.22803	EPRI 51-120'	EPRI 51-120'
285	0.23831	EPRI 51-120'	EPRI 51-120'
295	0.24134	EPRI 51-120'	EPRI 51-120'
305	0.24808	EPRI 121-250	EPRI 121-250
330	0.27535	EPRI 121-250	EPRI 121-250
360	0.28387	EPRI 121-250	EPRI 121-250
390	0.28158	EPRI 121-250	EPRI 121-250
420	0.2859	EPRI 251-500	EPRI 251-500
440	0.27806	EPRI 251-500	EPRI 251-500
480	0.28277	EPRI 251-500	EPRI 251-500
530	0.29667	EPRI 251-500	EPRI 251-500
590	0.27292	EPRI 251-500	EPRI 251-500
675	0.2871	EPRI501-100C	EPRI501-1000
775	0.25751	EPRI501-100C	EPRI501-1000
895	0.28159	EPRI501-100C	EPRI501-1000
1030	0.33487	EPRI501-100C	EPRI501-1000
1180	0.3369		

Run 0202r; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.325 g
Amax =	.337 g
CSR Max =	0.304
CSR Min =	0.146

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.206
10	600.0	0.205
15	1,000.0	0.205
20	1,400.0	0.204
25	1,800.0	0.203
30	2,200.0	0.203
35	2,600.0	0.202
40	3,000.0	0.201
45	3,425.0	0.201
50	3,875.0	0.200
60	4,550.0	0.199
70	5,450.0	0.197
80	6,038.0	0.206
90	6,314.0	0.222
100	6,590.0	0.237
110	6,866.0	0.249
120	7,142.0	0.260
130	7,418.0	0.269
140	7,769.0	0.277
150	8,195.0	0.282
160	8,621.0	0.285
170	9,047.0	0.288
180	9,473.0	0.291
190	9,899.0	0.295
200	10,325.0	0.298
210	10,751.0	0.302
220	11,177.0	0.304
228	11,620.4	0.303
235	12,069.9	0.296
245	12,612.0	0.297
255	13,258.0	0.293
265	13,904.0	0.289
275	14,550.0	0.286
285	15,196.0	0.282
295	15,842.0	0.278
305	16,488.0	0.273
330	17,618.5	0.265
360	19,395.0	0.246
390	21,348.0	0.228
420	23,316.0	0.220
440	24,858.0	0.206
480	26,924.0	0.201
530	29,901.0	0.195
590	33,564.0	0.186
675	38,435.0	0.162
775	44,738.0	0.158
895	52,344.0	0.154
1030	61,265.5	0.149
1180	71,496.0	0.136





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 4 sec
Average Shear Wave Velocity for Soil Column: 1234 ft/sec
Analysis No : 9
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\LCN260_58.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

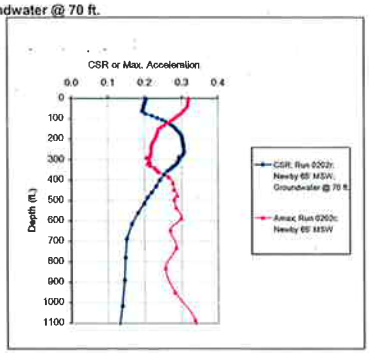
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)
1	2.5	0.08	6.1	455	0.0138	62.81	427.9457
2	7.5	0.08	8.6	466.7	0.03851	187.4	442.6023
3	15	0.08	10.3	603	0.06618	372.58	476.0331
4	25	0.08	11.6	641.8	0.09597	615.98	508.2563
5	35	0.08	12.2	755.4	0.1133	855.8	551.4059
6	45	0.08	12.6	851.8	0.12817	1091.81	585.5335
7	55	0.08	12.9	956.9	0.13835	1323.96	620.6064
8	65	0.08	13.3	1033.8	0.14998	1550.4	645.0618
9	75	0.08	13.4	1152	0.15382	1772.07	680.9406
10	85	0.09	13	1424.9	0.14073	2005.18	714.0011
11	95	0.09	13.1	1531.8	0.14617	2239.03	740.2999
12	105	0.09	13.2	1643	0.15002	2464.87	766.7
13	115	0.09	13.3	1760.9	0.15234	2682.58	793.7322
14	125	0.09	13.3	1885.3	0.15343	2892.59	821.2907
15	135	0.09	13.4	1963.1	0.15763	3092.52	838.0654
16	145	0.09	13.4	2096.6	0.15663	3287.15	866.5059
17	155	0.09	13.5	2184.5	0.15887	3472.76	884.062
18	165	0.09	13.4	2330.7	0.15662	3655	913.1063
19	175	0.09	13.3	2482.9	0.1544	3833.61	942.5107
20	185	0.105	12.7	3081.2	0.13114	4040.68	972.0604
21	195	0.105	12.7	3197.8	0.13266	4246.62	990.2822
22	205	0.105	12.7	3380.3	0.13163	4464.06	1019.051
23	215	0.105	12.7	3508.6	0.13339	4680.02	1037.29
24	225	0.105	12.8	3633.8	0.13472	4895.26	1055.635
25	237.5	0.105	12.8	3831.5	0.13473	5162.24	1083.971
26	252.5	0.105	12.8	4031	0.13564	5475.89	1111.833
27	267.5	0.105	12.8	4237.2	0.13648	5782.97	1139.916
28	270	0.12	15.8	838.3	0.71011	5953.09	474.2624
29	286.5	0.125	21.4	399.4	1.49435	5968.48	320.7576
30	295	0.127	17.9	506.6	1.23365	6249.83	358.3923
31	305	0.127	17.7	571.3	1.13495	6484.13	380.5907
32	315	0.127	17.6	607.4	1.10316	6700.58	392.4312
33	325	0.127	17.8	582.5	1.18106	6879.63	384.3032
34	335	0.127	19.4	724.5	0.96376	6982.91	428.5032
35	346	0.127	19.6	702.3	1.0076	7075.95	421.9757
36	355	0.127	19.9	682.5	1.04517	7132.84	415.9847
37	372.5	0.127	16.2	1070.9	0.66354	7320.15	521.0754
38	400	0.127	14.5	1505.7	0.50796	7646.54	617.8674
39	430	0.126	13.5	1947.3	0.41199	8022.79	660.9055
40	460	0.126	13.3	2087.4	0.39588	8263.38	724.6456
41	485	0.128	5.1	11014.8	0.07588	8358.33	1664.605
42	515	0.126	8.7	4199.1	0.20514	8614.03	1027.782
43	560	0.129	8.8	4172.7	0.20654	8743.36	1020.567
44	615	0.129	7	6247.2	0.14109	8814.36	1248.751
45	687.5	0.13	7.1	6391.9	0.14436	9227.59	1258.262
46	760	0.131	4.7	9039	0.11572	10450.04	1490.57
47	860	0.132	4.7	9998.1	0.11976	11973.87	1561.708
48	1017.5	0.133	4.8	10764.1	0.12384	13330.14	1614.325
49	1160	0.135	3.5	19755.4	0.07278	14378.04	2170.721
50	Base						

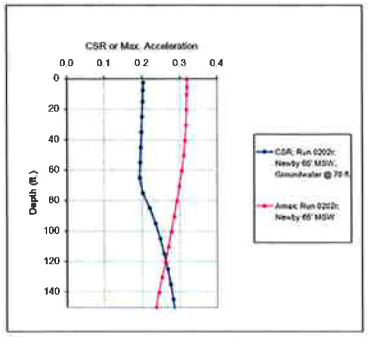
Depth (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.32015	Waste (K&M)	Waste (K&M)
5	0.31081	Waste (K&M)	Waste (K&M)
10	0.31901	Waste (K&M)	Waste (K&M)
20	0.31821	Waste (K&M)	Waste (K&M)
30	0.31726	Waste (K&M)	Waste (K&M)
40	0.31497	Waste (K&M)	Waste (K&M)
50	0.31116	Waste (K&M)	Waste (K&M)
60	0.30596	Waste (K&M)	Waste (K&M)
70	0.29855	Waste (K&M)	Waste (K&M)
80	0.2925	Waste (K&M)	Waste (K&M)
90	0.28571	Waste (K&M)	Waste (K&M)
100	0.2784	Waste (K&M)	Waste (K&M)
110	0.27056	Waste (K&M)	Waste (K&M)
120	0.26229	Waste (K&M)	Waste (K&M)
130	0.25358	Waste (K&M)	Waste (K&M)
140	0.24438	Waste (K&M)	Waste (K&M)
150	0.23896	Waste (K&M)	Waste (K&M)
160	0.23643	Waste (K&M)	Waste (K&M)
170	0.23343	Waste (K&M)	Waste (K&M)
180	0.23103	Waste (K&M)	Waste (K&M)
190	0.22867	Waste (K&M)	Waste (K&M)
200	0.22585	Waste (K&M)	Waste (K&M)
210	0.22304	Waste (K&M)	Waste (K&M)
220	0.21990	Waste (K&M)	Waste (K&M)
230	0.21758	Waste (K&M)	Waste (K&M)
245	0.21761	Waste (K&M)	Waste (K&M)
260	0.21754	Waste (K&M)	Waste (K&M)
275	0.21676	Clay PI=22	Clay PI=22
283	0.21325	EPRI 51-120'	EPRI 51-120'
290	0.20479	Clay PI=19	Clay PI=19
300	0.21221	Clay PI=19	Clay PI=19
310	0.21355	Clay PI=19	Clay PI=19
320	0.20782	Clay PI=19	Clay PI=19
330	0.2156	EPRI 51-120'	EPRI 51-120'
340	0.22751	EPRI 51-120'	EPRI 51-120'
350	0.23211	EPRI 51-120'	EPRI 51-120'
360	0.23798	EPRI 121-250	EPRI 121-250
385	0.2856	EPRI 121-250	EPRI 121-250
415	0.27677	EPRI 121-250	EPRI 121-250
445	0.27914	EPRI 121-250	EPRI 121-250
475	0.28816	EPRI 251-500	EPRI 251-500
495	0.28013	EPRI 251-500	EPRI 251-500
535	0.28553	EPRI 251-500	EPRI 251-500
585	0.29978	EPRI 251-500	EPRI 251-500
645	0.27013	EPRI 251-500	EPRI 251-500
730	0.2856	EPRI501-1000	EPRI501-1000
830	0.25705	EPRI501-1000	EPRI501-1000
950	0.28178	EPRI501-1000	EPRI501-1000
1085	0.33681	EPRI501-1000	EPRI501-1000
1235	0.33646		

Run 0202r; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.320 g
Amax =	.337 g
CSR Max =	0.307
CSR Min =	0.139

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.204
10	600.0	0.203
20	1,200.0	0.202
30	2,000.0	0.200
40	2,800.0	0.199
50	3,600.0	0.197
60	4,400.0	0.196
70	5,200.0	0.194
80	5,888.0	0.203
90	5,914.0	0.220
100	6,190.0	0.235
110	6,466.0	0.248
120	6,742.0	0.258
130	7,018.0	0.268
140	7,294.0	0.276
150	7,570.0	0.282
160	7,846.0	0.288
170	8,122.0	0.293
180	8,398.0	0.297
190	8,749.0	0.300
200	9,175.0	0.301
210	9,601.0	0.302
220	10,027.0	0.303
230	10,453.0	0.304
245	10,985.5	0.305
260	11,624.5	0.306
275	12,263.5	0.307
283	12,613.4	0.302
290	13,262.9	0.293
300	13,805.0	0.294
310	14,451.0	0.292
320	15,097.0	0.288
330	15,743.0	0.284
340	16,389.0	0.277
350	17,035.0	0.270
360	17,681.0	0.262
385	18,811.5	0.253
415	20,558.0	0.241
445	22,541.0	0.231
475	24,509.0	0.219
495	26,149.0	0.208
535	28,117.0	0.199
585	31,004.0	0.183
645	34,757.0	0.165
730	39,628.0	0.151
830	45,931.0	0.148
950	53,537.0	0.145
1085	62,478.5	0.139
1235	72,669.0	0.129





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

SHAKE2000 GRF File - EN
No of Analyses: 9
SHAKE2000 Flags: 1 2 3 4 5 6 7 8 9

Avg. PGA for Free Field & Dike =	.609 g
Max EQ PGA for All Soil Profiles =	.633 g
Min EQ PGA for All Soil Profiles =	.484 g

U. Wt. of Water =	62.4 pcf

Soil Profile Identification: Free Field (no MSW)
Soil Deposit Number: 1
Period for Soil Column: 2.77 sec
Average Shear Wave Velocity for Soil Column: 1451 ft/sec
Analysis No: 1
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

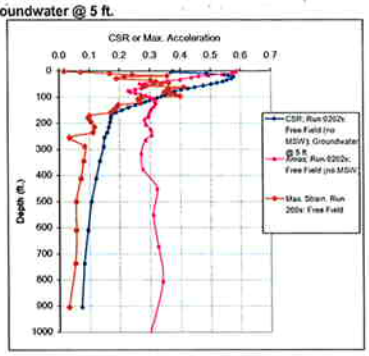
No. of Soil Layers: 43
No. of Peak Acceleration Values: 43

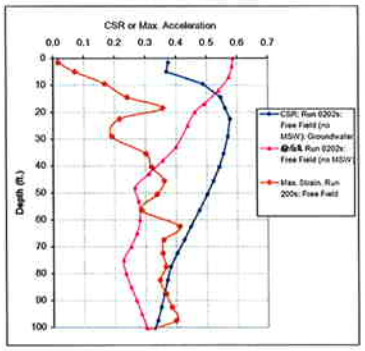
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	1.5	0.113	3.8	608.2	0.01614	97.81	415.6202	0	0.68525	Clay PI=30	Clay PI=30
2	5	0.113	6.7	462.5	0.06932	320.61	363.0317	3	0.68274	Clay PI=30	Clay PI=30
3	9.5	0.113	8.000001	355.1	0.16727	594.02	318.1003	7	0.57163	Clay PI=30	Clay PI=30
4	14.5	0.113	10	364	0.24063	876.6	322.062	12	0.53709	Clay PI=30	Clay PI=30
5	18.5	0.12	13.4	304	0.35603	1082.69	285.6105	17	0.49195		
6	22.5	0.113	9.6	606.4	0.21524	1305.23	415.6888	20	0.46016	Clay PI=30	Clay PI=30
7	29	0.125	10.6	853.8	0.18947	1617.02	468.9784	25	0.43654	Sand Upper	Sand lower
8	35.5	0.127	13.1	640.6	0.30056	1925.51	403.0134	33	0.39876	Clay PI=19	Clay PI=19
9	40.5	0.127	13.3	672.1	0.31891	2143.38	412.8032	38	0.35646	Clay PI=19	Clay PI=19
10	45.5	0.127	13.7	645.8	0.36071	2329.31	404.6456	43	0.31005	Clay PI=19	Clay PI=19
11	50.5	0.127	13.6	738.9	0.33667	2489.02	432.8315	48	0.26517	Clay PI=19	Clay PI=19
12	56.5	0.125	13.3	921.5	0.29668	2641.79	487.2149	53	0.27561	EPRI 51-120'	EPRI 51-120'
13	62.5	0.127	14.3	668.4	0.41086	2748.4	411.6653	60	0.28125	Clay PI=19	Clay PI=19
14	67.5	0.127	13.8	786.1	0.35853	2818.44	446.4419	65	0.27144	Clay PI=19	Clay PI=19
15	72.5	0.127	13.8	807	0.35535	2867.66	452.3378	70	0.25172	Clay PI=19	Clay PI=19
16	77.5	0.127	13.9	795.2	0.36506	2910.21	449.0185	75	0.22811	Clay PI=19	Clay PI=19
17	82.5	0.127	13.7	871.2	0.34561	3011.12	469.9861	80	0.23511	Clay PI=19	Clay PI=19
18	87.5	0.127	13.9	849.7	0.36591	3109.25	464.1506	85	0.25228	Clay PI=19	Clay PI=19
19	92.5	0.127	14	830.7	0.38412	3190.78	458.9318	90	0.26981	Clay PI=19	Clay PI=19
20	97.5	0.127	14.2	819.2	0.39839	3251.55	454.9086	95	0.28652	Clay PI=19	Clay PI=19
21	102.5	0.127	12.8	1208.8	0.27151	3281.97	553.6092	100	0.30131	Clay PI=19	Clay PI=19
22	107.5	0.127	12.9	1269.9	0.26018	3304.18	567.4281	105	0.30947	EPRI 51-120'	EPRI 51-120'
23	112.5	0.127	13	1255.8	0.26388	3313.59	564.2692	110	0.31531	EPRI 51-120'	EPRI 51-120'
24	117.5	0.127	13.1	1247.3	0.2655	3311.61	562.3563	115	0.31478	EPRI 51-120'	EPRI 51-120'
25	122.5	0.127	13.1	1244.2	0.26518	3299.5	561.657	120	0.31786	EPRI 51-120'	EPRI 51-120'
26	130	0.127	10	1660.3	0.1952	3240.96	648.8127	125	0.31628	EPRI 121-250	EPRI 121-250
27	140	0.127	9.9	1661	0.18847	3168.04	652.8448	135	0.31211	EPRI 121-250	EPRI 121-250
28	150	0.127	9.700001	1715.2	0.17867	3064.92	659.4524	145	0.3042	EPRI 121-250	EPRI 121-250
29	160	0.127	9.4	1756.8	0.16854	2960.58	667.3836	155	0.29871	EPRI 121-250	EPRI 121-250
30	170	0.127	7.1	2903	0.09915	2878.42	857.9255	165	0.29548	EPRI 121-250	EPRI 121-250
31	180	0.127	6.9	3173.3	0.09525	3022.4	896.9777	175	0.29227	EPRI 121-250	EPRI 121-250
32	195	0.127	7.2	3082.9	0.10496	3235.8	884.1089	185	0.28111	EPRI 121-250	EPRI 121-250
33	215	0.128	7.5	3015.5	0.11577	3491.07	870.6668	205	0.2881	EPRI 121-250	EPRI 121-250
34	235	0.128	7.4	3334.4	0.11084	3695.78	915.8657	225	0.3017	EPRI 121-250	EPRI 121-250
35	255	0.128	3	11408.7	0.03301	3766.57	1664.108	245	0.305	EPRI 251-500	EPRI 251-500
36	290	0.128	5.2	5084	0.0832	4229.89	1130.904	285	0.28463	EPRI 251-500	EPRI 251-500
37	345	0.129	5.1	5733.7	0.08059	4620.51	1196.329	315	0.27067	EPRI 251-500	EPRI 251-500
38	412.5	0.13	4.7	7083.6	0.0709	5022.39	1324.596	375	0.27628	EPRI 251-500	EPRI 251-500
39	500	0.131	2.8	9663.1	0.05515	5329.21	1541.17	450	0.32201	EPRI501-1000	EPRI501-1000
40	610	0.132	2.8	10744.1	0.05453	5858.57	1618.922	550	0.30886	EPRI501-1000	EPRI501-1000
41	737.5	0.133	2.8	12021.3	0.05173	6218.04	1705.995	670	0.32524	EPRI501-1000	EPRI501-1000
42	905	0.135	2	22615.8	0.03061	6921.85	2322.55	805	0.34031	EPRI501-1000	EPRI501-1000
43	Base							1005	0.29864		

Run 0202s; Free Field (no MSW); Groundwater @ 5 ft.

Groundwater Depth =	5.0 ft.
PGA =	.565 g
Amax =	.565 g
CSR Max =	0.577
CSR Min =	0.073

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
3	189.5	0.375
7	585.0	0.369
12	792.7	0.487
17	1,045.7	0.545
20	1,258.8	0.559
25	1,471.6	0.577
33	1,848.4	0.569
38	2,260.3	0.554
43	2,583.3	0.539
48	2,906.3	0.521
53	3,229.3	0.501
60	3,609.9	0.479
65	3,990.5	0.447
70	4,313.6	0.425
75	4,636.5	0.402
80	4,959.5	0.381
85	5,282.5	0.371
90	5,605.5	0.361
95	5,928.5	0.350
100	6,251.5	0.338
105	6,574.5	0.324
110	6,897.5	0.311
115	7,220.5	0.298
120	7,543.5	0.285
125	7,866.5	0.273
135	8,351.0	0.252
145	8,997.0	0.229
155	9,643.0	0.207
165	10,289.0	0.187
175	10,935.0	0.171
185	11,581.0	0.170
205	12,550.0	0.168
225	13,852.0	0.164
245	15,154.0	0.158
285	18,470.0	0.149
315	18,772.0	0.148
375	22,410.0	0.134
450	26,943.0	0.121
550	32,908.0	0.105
670	40,514.0	0.094
805	49,455.5	0.082
1005	61,461.0	0.073





Soil Profile Identification: Dike (no MSW)
Soil Deposit Number: 2
Period for Soil Column: 2.81 sec
Average Shear Wave Velocity for Soil Column: 1442 ft/sec
Analysis No: 2
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

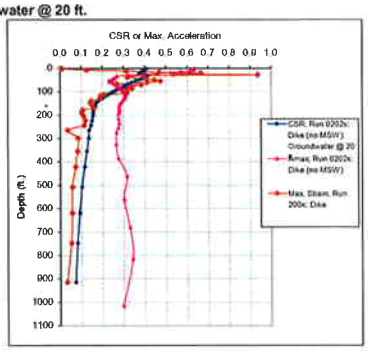
No. of Soil Layers: 45
No. of Peak Acceleration Values: 45

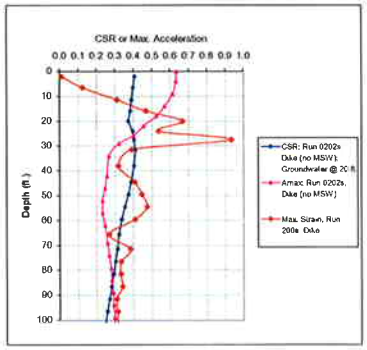
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2	0.12	3.3	1657.5	0.00909	150.16	666.9052	0	0.6328	Clay PI=22	Clay PI=22
2	6.5	0.12	9.5	387.2	0.1235	478.17	322.3332	4	0.83162	Clay PI=22	Clay PI=22
3	11.5	0.12	12.5	264.9	0.31215	826.96	266.6111	9	0.61403	Clay PI=22	Clay PI=22
4	16	0.113	12.2	239.6	0.46808	1121.52	261.2956	14	0.57016	Clay PI=30	Clay PI=30
5	20	0.113	13.4	203.3	0.66534	1352.98	240.6897	18	0.52458	Clay PI=30	Clay PI=30
6	24	0.113	12.6	201.7	0.53503	1560.45	238.3082	22	0.45652	Clay PI=30	Clay PI=30
7	27.5	0.12	17	182.4	0.93425	1703.96	221.2329	26	0.3992		
8	31.5	0.113	11.5	481.5	0.38882	1872.19	370.4135	29	0.32188	Clay PI=30	Clay PI=30
9	36	0.125	13.2	652.5	0.31748	2071.52	400.8805	34	0.29773	Sand Upper	Sand lower
10	44.5	0.127	14.2	548.6	0.40715	2233.77	372.9529	42	0.2651	Clay PI=19	Clay PI=19
11	49.5	0.127	14.6	523.4	0.4448	2327.09	364.2864	47	0.24469	Clay PI=19	Clay PI=19
12	54.5	0.127	14.8	505	0.47368	2391.92	357.8259	52	0.23183	Clay PI=19	Clay PI=19
13	59.5	0.127	14.3	599.6	0.40925	2441.37	388.9266	57	0.23115	Clay PI=19	Clay PI=19
14	65.5	0.125	13.1	940.9	0.26827	2524.12	492.3168	62	0.24584	EPRI 51-120'	EPRI 51-120'
15	71.5	0.127	14.1	666.6	0.36262	2634.06	417.8396	69	0.25906	Clay PI=19	Clay PI=19
16	76.5	0.127	13.6	810.6	0.33283	2695.01	453.3456	74	0.26765	Clay PI=19	Clay PI=19
17	81.5	0.127	13.6	832.4	0.32995	2746.43	459.4012	79	0.27766	Clay PI=19	Clay PI=19
18	86.5	0.127	13.7	820.3	0.33929	2783.13	456.05	84	0.28135	Clay PI=19	Clay PI=19
19	91.5	0.127	13.4	903.8	0.31029	2804.3	478.6667	89	0.28912	Clay PI=19	Clay PI=19
20	96.5	0.127	13.4	896.9	0.31373	2813.96	476.8679	94	0.2923	Clay PI=19	Clay PI=19
21	101.5	0.127	13.5	893	0.31488	2811.92	475.83	99	0.29723	Clay PI=19	Clay PI=19
22	106.5	0.127	13.5	890.8	0.31539	2809.89	475.2435	104	0.30157	Clay PI=19	Clay PI=19
23	111.5	0.127	12	1341.3	0.20818	2792.05	583.1617	109	0.30516	Clay PI=19	Clay PI=19
24	116.5	0.127	11.6	1455.3	0.19135	2784.72	607.4385	114	0.306	EPRI 51-120'	EPRI 51-120'
25	121.5	0.127	11.5	1457.4	0.19039	2774.76	607.8766	119	0.30877	EPRI 51-120'	EPRI 51-120'
26	126.5	0.127	11.5	1462.2	0.18919	2766.27	608.8768	124	0.3041	EPRI 51-120'	EPRI 51-120'
27	131.5	0.127	11.5	1468	0.18776	2756.26	610.0833	129	0.30272	EPRI 51-120'	EPRI 51-120'
28	139	0.127	8.6	1875.2	0.14518	2722.52	689.5248	134	0.29776	EPRI 121-250	EPRI 121-250
29	149	0.127	8.5	1898.5	0.14222	2700.11	693.7953	144	0.28862	EPRI 121-250	EPRI 121-250
30	159	0.127	8.6	1870.8	0.15139	2832.18	688.7153	154	0.261	EPRI 121-250	EPRI 121-250
31	169	0.127	8.000001	1834.6	0.16023	2939.48	682.0195	164	0.27834	EPRI 121-250	EPRI 121-250
32	179	0.127	7.2	2897.7	0.10371	3005.27	857.142	174	0.28034	EPRI 121-250	EPRI 121-250
33	189	0.127	7	3150.9	0.09042	3132.66	893.8062	184	0.27879	EPRI 121-250	EPRI 121-250
34	204	0.127	7.3	3059	0.10851	3319.39	880.6753	194	0.27471	EPRI 121-250	EPRI 121-250
35	224	0.128	7.6	2988.7	0.11858	3544.14	867.0898	214	0.27488	EPRI 121-250	EPRI 121-250
36	244	0.128	7.4	3318.5	0.11211	3720.26	913.6794	234	0.27935	EPRI 121-250	EPRI 121-250
37	264	0.128	3	11398.3	0.03311	3773.59	1693.335	254	0.27462	EPRI 251-500	EPRI 251-500
38	299	0.128	5.2	5084.3	0.08299	4217.92	1130.937	274	0.26613	EPRI 251-500	EPRI 251-500
39	354	0.129	5.1	5737	0.08039	4611.78	1196.873	324	0.26404	EPRI 251-500	EPRI 251-500
40	421.5	0.13	4.7	7085.5	0.07062	5018.19	1324.773	384	0.27468	EPRI 251-500	EPRI 251-500
41	509	0.131	2.8	9659.9	0.05525	5337.01	1540.915	459	0.31425	EPRI501-1000	EPRI501-1000
42	619	0.132	2.8	10757.5	0.05423	5834.25	1619.932	559	0.3004	EPRI501-1000	EPRI501-1000
43	746.5	0.133	2.7	12010.5	0.05192	6238.39	1705.229	679	0.32794	EPRI501-1000	EPRI501-1000
44	914	0.135	2	22630.2	0.0304	6880.05	2323.3	814	0.3421	EPRI501-1000	EPRI501-1000
45	Base							1014	0.29843		

Run 0202s; Dike (no MSW); Groundwater @ 20 ft.

Groundwater Depth =	20.0 ft.
PGA =	.633 g
Amax =	.633 g
CSR Max =	0.411
CSR Min =	0.071

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
4	240.0	0.407
9	780.0	0.398
14	1,380.0	0.390
18	1,908.0	0.382
22	2,358.0	0.373
26	2,660.4	0.396
29	2,748.0	0.403
34	2,960.0	0.411
42	3,337.8	0.403
47	3,749.7	0.387
52	4,072.7	0.371
57	4,395.7	0.354
62	4,718.7	0.336
69	5,099.3	0.322
74	5,479.9	0.312
79	5,802.9	0.302
84	6,125.9	0.291
89	6,448.9	0.281
94	6,771.9	0.269
99	7,094.9	0.258
104	7,417.9	0.248
109	7,740.9	0.236
114	8,063.9	0.225
119	8,386.9	0.216
124	8,709.9	0.207
129	9,032.9	0.199
134	9,355.9	0.191
144	9,840.4	0.180
154	10,486.4	0.167
164	11,132.4	0.155
174	11,778.4	0.162
184	12,424.4	0.157
194	13,070.4	0.156
214	14,039.4	0.154
234	15,341.4	0.150
254	16,653.4	0.145
274	17,965.4	0.137
324	20,261.4	0.135
384	23,690.4	0.125
459	28,432.4	0.115
559	34,397.4	0.101
679	42,003.4	0.090
814	50,944.9	0.080
1014	62,970.4	0.071





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 34' MSW
Soil Deposit Number: 3
Period for Soil Column: 2.87 sec
Average Shear Wave Velocity for Soil Column: 1440 ft/sec
Analysis No.: 3
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

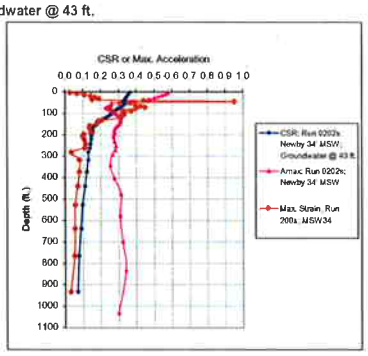
No. of Soil Layers: 47
No. of Peak Acceleration Values: 47

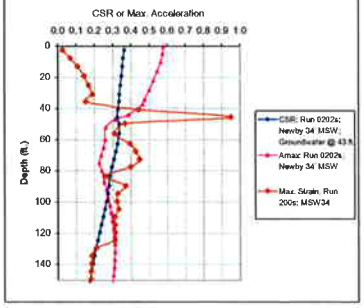
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	7.4	449.6	0.02491	111.96	425.3513	0	0.57827	Waste (K&M)	Waste (K&M)
2	7.5	0.08	10.1	497.4	0.06634	330	447.4411	5	0.57474	Waste (K&M)	Waste (K&M)
3	13	0.08	11.8	622.7	0.10787	564.35	458.6794	10	0.5649	Waste (K&M)	Waste (K&M)
4	19	0.08	12.8	673.2	0.1416	811.72	480.326	16	0.54525	Waste (K&M)	Waste (K&M)
5	25	0.08	13.5	626.9	0.16752	1050.18	502.3219	22	0.52154	Waste (K&M)	Waste (K&M)
6	31	0.08	13.9	685.1	0.18739	1283.85	525.1216	28	0.49931	Waste (K&M)	Waste (K&M)
7	35.5	0.12	10.1	989.1	0.15086	1492.12	515.1781	34	0.47324	Clay PI=22	Clay PI=22
8	40.5	0.113	12	937.4	0.43889	1744.36	330.5136	37	0.46252	Clay PI=30	Clay PI=30
9	45.5	0.12	17.1	204.2	0.94898	1937.41	234.0805	44	0.38518		
10	49.5	0.113	11.3	578.1	0.36555	2113.24	405.873	47	0.31021	Clay PI=30	Clay PI=30
11	56	0.125	13.1	748.3	0.30748	2300.88	439.0468	52	0.2812	Sand Upper	Sand lower
12	62.5	0.127	14.1	624	0.39325	2453.87	397.7675	60	0.25911	Clay PI=19	Clay PI=19
13	67.5	0.127	14.4	600.5	0.4233	2541.78	390.1958	65	0.25158	Clay PI=19	Clay PI=19
14	72.5	0.127	14.6	563.9	0.44538	2600.64	384.7648	70	0.23066	Clay PI=19	Clay PI=19
15	77.5	0.127	14.2	667.5	0.3868	2648.57	411.3881	75	0.22677	Clay PI=19	Clay PI=19
16	83.5	0.125	12.8	1062.5	0.2663	2723.17	523.1835	80	0.24114	EPRI 51-120'	EPRI 51-120'
17	89.5	0.127	13.9	767.2	0.37049	2842.18	441.0424	87	0.25224	Clay PI=19	Clay PI=19
18	94.5	0.127	13.4	896.5	0.3249	2912.88	476.7615	92	0.26464	Clay PI=19	Clay PI=19
19	99.5	0.127	13.4	920.3	0.3224	2967.19	483.0486	97	0.27439	Clay PI=19	Clay PI=19
20	104.5	0.127	13.5	906.9	0.33113	3002.9	479.519	102	0.28226	Clay PI=19	Clay PI=19
21	109.5	0.127	13.3	976.4	0.30896	3018.73	497.5537	107	0.29042	Clay PI=19	Clay PI=19
22	114.5	0.127	13.4	989.7	0.31125	3018.21	495.8437	112	0.29566	Clay PI=19	Clay PI=19
23	119.5	0.127	13.4	967.3	0.31081	3009.49	495.2297	117	0.3021	Clay PI=19	Clay PI=19
24	124.5	0.127	13.4	967.6	0.30877	2987.78	495.3085	122	0.30529	Clay PI=19	Clay PI=19
25	129.5	0.127	12	1411.5	0.20918	2952.72	596.2277	127	0.31139	Clay PI=19	Clay PI=19
26	134.5	0.127	11.4	1572.3	0.18532	2913.95	631.3843	132	0.31176	EPRI 51-120'	EPRI 51-120'
27	139.5	0.127	11.3	1581.1	0.18261	2887.26	633.1487	137	0.30927	EPRI 51-120'	EPRI 51-120'
28	144.5	0.127	11.3	1591.6	0.17949	2856.87	635.2476	142	0.30826	EPRI 51-120'	EPRI 51-120'
29	149.5	0.127	11.2	1603.2	0.17686	2835.33	637.5583	147	0.30278	EPRI 51-120'	EPRI 51-120'
30	157	0.127	8.4	2035.1	0.13722	2792.43	718.3217	152	0.28959	EPRI 121-250	EPRI 121-250
31	167	0.127	8.209999	2062.3	0.13401	2783.71	723.1061	162	0.28701	EPRI 121-250	EPRI 121-250
32	177	0.127	8.4	2040.2	0.14156	2888.08	719.2211	172	0.27811	EPRI 121-250	EPRI 121-250
33	187	0.127	8.6	1996.7	0.15098	3014.7	711.5124	182	0.27477	EPRI 121-250	EPRI 121-250
34	197	0.127	7.1	3002.1	0.10267	3082.19	872.4462	192	0.27722	EPRI 121-250	EPRI 121-250
35	207	0.127	6.9	3284.5	0.09725	3194.02	912.5585	202	0.27187	EPRI 121-250	EPRI 121-250
36	222	0.127	7.2	3189.8	0.1063	3390.55	899.2784	212	0.27213	EPRI 121-250	EPRI 121-250
37	242	0.128	7.6	3120.2	0.11588	3615.8	885.9601	232	0.27765	EPRI 121-250	EPRI 121-250
38	262	0.128	7.3	3459.1	0.10955	3786.37	932.8343	252	0.28382	EPRI 121-250	EPRI 121-250
39	282	0.128	3	11807.4	0.03241	3826.72	1723.456	272	0.28045	EPRI 251-500	EPRI 251-500
40	317	0.129	5.1	5328.3	0.07089	4258.99	1153.29	292	0.2957	EPRI 251-500	EPRI 251-500
41	372	0.129	5.1	5895.9	0.07931	4876.29	1213.132	342	0.25329	EPRI 251-500	EPRI 251-500
42	439.5	0.13	4.7	7187.2	0.07042	5060.89	1334.247	402	0.27433	EPRI 251-500	EPRI 251-500
43	527	0.131	2.8	9762.7	0.05405	5364.66	1549.092	477	0.31208	EPRI501-1000	EPRI501-1000
44	637	0.132	2.7	10974.7	0.0534	5860.2	1636.203	577	0.30812	EPRI501-1000	EPRI501-1000
45	764.5	0.133	2.6	12159.3	0.05155	6268.31	1716.759	697	0.32247	EPRI501-1000	EPRI501-1000
46	932	0.135	2	22621.2	0.03052	6904.89	2322.638	832	0.33959	EPRI501-1000	EPRI501-1000
47	Base							1032	0.286		

Run 0202s; Newby 34' MSW; Groundwater @ 43 ft.

Groundwater Depth =	43.0 ft.
PGA =	.578 g
Amax =	.578 g
CSR Max =	0.364
CSR Min =	0.070

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.364
10	600.0	0.358
16	1,040.0	0.353
22	1,520.0	0.347
28	2,000.0	0.341
34	2,480.0	0.336
37	2,900.0	0.334
44	3,476.5	0.328
47	3,695.0	0.323
52	4,107.9	0.334
60	4,484.8	0.333
65	4,896.7	0.326
70	5,219.7	0.317
75	5,542.7	0.305
80	5,865.7	0.293
87	6,246.3	0.283
92	6,628.9	0.276
97	6,949.9	0.272
102	7,272.9	0.265
107	7,595.9	0.257
112	7,918.9	0.246
117	8,241.9	0.238
122	8,564.9	0.228
127	8,887.9	0.219
132	9,210.9	0.208
137	9,633.9	0.199
142	9,856.9	0.190
147	10,179.9	0.182
152	10,502.9	0.176
162	10,987.4	0.165
172	11,633.4	0.154
182	12,279.4	0.153
192	12,925.4	0.152
202	13,571.4	0.148
212	14,217.4	0.146
232	15,186.4	0.145
252	16,468.4	0.143
272	17,800.4	0.138
292	19,112.4	0.130
342	21,433.4	0.129
402	25,096.4	0.121
477	29,629.4	0.111
577	35,504.4	0.098
697	43,200.4	0.088
832	52,141.9	0.078
1032	64,167.4	0.070





Soil Profile Identification: Newby 65' MSW
Soil Deposit Number: 4
Period for Soil Column: 2.92 sec
Average Shear Wave Velocity for Soil Column: 1435 ft/sec
Analysis No.: 4
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

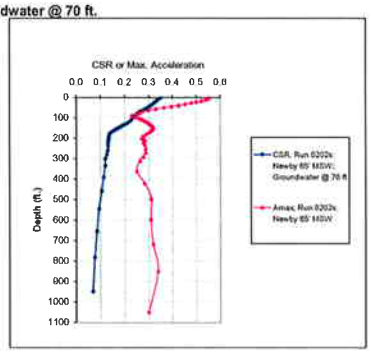
No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

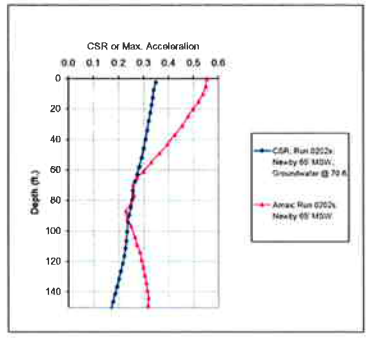
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	7.3	449.0	0.02382	107.18	425.5406	0	0.55384	Waste (K&M)	Waste (K&M)
2	7.5	0.08	10.1	475.9	0.06565	313.9	437.664	5	0.54986	Waste (K&M)	Waste (K&M)
3	12.5	0.08	11.5	527.8	0.09767	516.54	460.9116	10	0.53829	Waste (K&M)	Waste (K&M)
4	17.5	0.08	12.3	581.0	0.1225	712.79	483.9574	15	0.52092	Waste (K&M)	Waste (K&M)
5	22.5	0.08	13	616.4	0.14619	901.14	498.0974	20	0.4993	Waste (K&M)	Waste (K&M)
6	28	0.08	13.4	676.8	0.16239	1099.05	521.931	25	0.47847	Waste (K&M)	Waste (K&M)
7	34	0.08	13.0	710.4	0.1839	1306.48	534.7299	31	0.4533	Waste (K&M)	Waste (K&M)
8	40	0.08	14.1	778.8	0.19334	1505.82	559.8812	37	0.42434	Waste (K&M)	Waste (K&M)
9	46	0.08	14.3	821.4	0.20582	1690.86	574.9901	43	0.39617	Waste (K&M)	Waste (K&M)
10	52	0.08	14.5	887.9	0.21432	1860.17	591.0413	49	0.36451	Waste (K&M)	Waste (K&M)
11	58	0.09	14	1059.4	0.19131	2026.82	615.6539	55	0.32999	Waste (K&M)	Waste (K&M)
12	63	0.12	11.6	946.5	0.23149	2181.09	603.9618	61	0.29862	Clay PI=22	Clay PI=22
13	67.5	0.12	12	902.9	0.25832	2332.37	492.2176	65	0.27369	Clay PI=22	Clay PI=22
14	73.5	0.125	15.4	476.3	0.51764	2465.3	350.2783	70	0.25669	Sand Upper	Sand lower
15	79.5	0.127	14.2	654.3	0.39584	2590.64	407.3001	77	0.26142	Clay PI=19	Clay PI=19
16	84.5	0.127	14.3	638.2	0.4157	2652.84	402.2578	82	0.24935	Clay PI=19	Clay PI=19
17	89.5	0.127	14.5	626.9	0.43115	2702.92	398.8807	87	0.23932	Clay PI=19	Clay PI=19
18	94.5	0.127	14.1	714.9	0.3866	2763.86	425.7442	92	0.23423	Clay PI=19	Clay PI=19
19	100.5	0.125	12.7	1121.2	0.25675	2867.38	537.4208	97	0.25059	EPRI 51-120'	EPRI 51-120'
20	106.5	0.127	14	779	0.38136	2970.73	444.4212	104	0.26565	Clay PI=19	Clay PI=19
21	111.5	0.127	13.5	911.7	0.33178	3025.02	480.7863	109	0.27351	Clay PI=19	Clay PI=19
22	116.5	0.127	13.5	937.7	0.32654	3062.08	487.5636	114	0.28442	Clay PI=19	Clay PI=19
23	121.5	0.127	13.5	928.2	0.33201	3081.63	485.1174	119	0.28925	Clay PI=19	Clay PI=19
24	126.5	0.127	13.3	1005	0.30672	3082.41	504.7881	124	0.29793	Clay PI=19	Clay PI=19
25	131.5	0.127	13.3	1002.2	0.30658	3072.52	504.0644	129	0.30188	Clay PI=19	Clay PI=19
26	136.5	0.127	13.3	1003.3	0.3041	3051.08	504.361	134	0.30875	Clay PI=19	Clay PI=19
27	141.5	0.127	13.3	1007.1	0.29976	3018.84	505.3152	139	0.31232	Clay PI=19	Clay PI=19
28	146.5	0.127	11.8	1518.2	0.19638	2977.55	620.018	144	0.31777	Clay PI=19	Clay PI=19
29	151.5	0.127	11.2	1635.8	0.17915	2930.57	644.0079	149	0.31588	EPRI 51-120'	EPRI 51-120'
30	156.5	0.127	11.1	1650.7	0.17467	2883.14	646.9343	154	0.31719	EPRI 51-120'	EPRI 51-120'
31	161.5	0.127	11	1666.1	0.17048	2840.39	649.945	159	0.31308	EPRI 51-120'	EPRI 51-120'
32	166.5	0.127	10.9	1684.5	0.16575	2791.99	653.524	164	0.30598	EPRI 51-120'	EPRI 51-120'
33	174	0.127	8.2	2128.2	0.12766	2714.85	734.5685	169	0.30233	EPRI 121-250	EPRI 121-250
34	184	0.127	8.1	2137.3	0.13102	2800.28	736.1373	179	0.28650	EPRI 121-250	EPRI 121-250
35	194	0.127	8.209999	2102.3	0.13855	2912.84	730.085	189	0.27581	EPRI 121-250	EPRI 121-250
36	204	0.127	8.5	2055	0.14851	3051.94	721.8251	199	0.2711	EPRI 121-250	EPRI 121-250
37	214	0.128	6.9	3187.3	0.09811	3127.19	895.4357	209	0.28417	EPRI 121-250	EPRI 121-250
38	224	0.128	6.8	3390.9	0.0952	3227.98	923.5926	219	0.27832	EPRI 121-250	EPRI 121-250
39	239	0.128	7.2	3268.9	0.10446	3435.73	909.5955	229	0.28340	EPRI 121-250	EPRI 121-250
40	259	0.128	7.5	3180.1	0.11525	3665.08	894.4238	249	0.28694	EPRI 121-250	EPRI 121-250
41	279	0.128	7.3	3524.2	0.10888	3837.05	941.5713	269	0.28678	EPRI 121-250	EPRI 121-250
42	299	0.128	3	11933.4	0.03238	3864.58	1732.627	289	0.27806	EPRI 251-500	EPRI 251-500
43	334	0.128	5.1	5358.2	0.08027	4301.17	1161	309	0.28501	EPRI 251-500	EPRI 251-500
44	389	0.129	5	5964.8	0.07844	4702.5	1223.265	359	0.25188	EPRI 251-500	EPRI 251-500
45	456.5	0.13	4.7	7307.2	0.06936	5068.36	1345.339	419	0.28361	EPRI 251-500	EPRI 251-500
46	544	0.131	2.8	8898.2	0.05442	5386.73	1550.805	494	0.30953	EPRI501-1000	EPRI501-1000
47	654	0.132	2.7	10965.9	0.05381	5878.79	1635.547	594	0.30935	EPRI501-1000	EPRI501-1000
48	781.5	0.133	2.6	12320.5	0.05091	6272.33	1727.065	714	0.3177	EPRI501-1000	EPRI501-1000
49	949	0.135	2	22615.6	0.03061	6922.19	2322.55	849	0.33889	EPRI501-1000	EPRI501-1000
50	Base							1049	0.20949		

Run 0202s; Newby 65' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.554 g
Amax =	.554 g
CSR Max =	0.348
CSR Min =	0.076

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.348
10	600.0	0.340
15	1,000.0	0.336
20	1,400.0	0.331
25	1,800.0	0.325
31	2,240.0	0.319
37	2,720.0	0.312
43	3,200.0	0.306
49	3,680.0	0.299
55	4,160.0	0.291
61	4,670.0	0.282
65	5,160.0	0.275
70	5,720.0	0.265
77	6,239.1	0.257
82	6,619.7	0.254
87	6,942.7	0.248
92	7,265.7	0.242
97	7,588.7	0.237
104	7,999.3	0.234
109	8,349.9	0.231
114	8,672.9	0.227
119	8,995.9	0.221
124	9,318.9	0.215
129	9,641.9	0.208
134	9,964.9	0.200
139	10,287.9	0.193
144	10,810.9	0.185
149	10,933.9	0.177
154	11,258.9	0.169
159	11,579.9	0.162
164	11,902.9	0.155
169	12,225.9	0.148
179	12,710.4	0.139
189	13,356.4	0.136
199	14,002.4	0.135
209	14,648.4	0.135
219	15,294.4	0.133
229	15,955.4	0.132
249	16,939.4	0.132
269	17,951.4	0.131
289	19,563.4	0.127
309	20,875.4	0.120
359	23,171.4	0.121
419	26,809.4	0.114
494	31,342.4	0.105
594	37,307.4	0.094
714	44,913.4	0.085
849	53,854.9	0.078
1049	65,880.4	0.068





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 95' MSW
Soil Deposit Number: 5
Period for Soil Column: 3 sec
Average Shear Wave Velocity for Soil Column: 1418 ft/sec
Analysis No.: 5
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

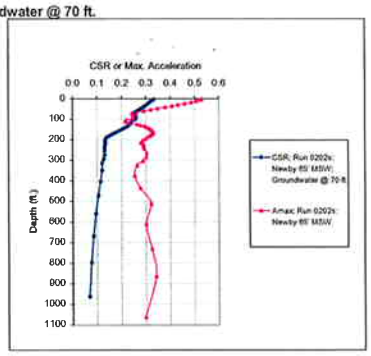
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc. (ft)
1	2.5	0.08	7.2	450.5	0.0227	102.28	425.8242	
2	8	0.08	10.1	498.1	0.06441	320.84	447.7558	
3	14	0.08	11.8	548.7	0.10015	549.51	469.0487	
4	20	0.08	12.4	602.5	0.12732	767.08	492.4492	
5	26	0.08	13	663.2	0.14754	978.49	516.6605	
6	32	0.08	13.5	696.4	0.16907	1177.39	529.4346	
7	38	0.08	13.8	764.1	0.17851	1364.07	554.5721	
8	44	0.08	14	806.4	0.19048	1538.02	566.7158	
9	50	0.09	13.5	1020.3	0.16751	1709.21	604.186	
10	56	0.09	13.7	1078.8	0.17431	1876.88	620.6882	
11	62	0.09	13.7	1137.2	0.17857	2030.74	637.8596	
12	68	0.09	13.8	1202.1	0.18038	2186.23	655.8084	
13	74	0.09	13.8	1271.2	0.1801	2288.53	674.3039	
14	80	0.09	13.7	1344.7	0.17814	2395.35	693.6165	
15	86	0.09	13.7	1422.2	0.17485	2486.76	713.3243	
16	92	0.09	13.6	1503.9	0.17056	2565.11	733.5271	
17	99.5	0.12	12.8	804.8	0.33093	2663.18	484.7092	
18	107.5	0.127	14.7	594.2	0.45912	2727.95	388.1436	
19	114.5	0.125	13.5	935.3	0.30392	2842.51	490.8495	
20	120.5	0.127	14.4	681.1	0.4338	2953.38	415.5579	
21	125.5	0.127	13.9	806.4	0.37393	3015.18	452.1996	
22	130.5	0.127	13.9	831.7	0.36776	3058.63	459.208	
23	135.5	0.127	13.9	824.1	0.37414	3083.27	457.105	
24	140.5	0.127	13.6	895	0.34517	3089.13	476.3625	
25	145.5	0.127	13.6	884.5	0.34477	3084.12	476.2295	
26	150.5	0.127	13.6	896.3	0.34204	3065.64	476.7084	
27	155.5	0.127	13.6	900.7	0.33699	3035.16	477.877	
28	160.5	0.127	12.1	1379.2	0.21645	2985.36	591.3433	
29	165.5	0.127	11.5	1488	0.19666	2929.31	614.2251	
30	170.5	0.127	11.4	1505.4	0.1913	2876.78	617.8658	
31	175.5	0.127	11.3	1526.2	0.18496	2822.89	622.0593	
32	180.5	0.127	11.1	1549.4	0.17798	2767.64	626.7695	
33	188	0.127	8.299999	1976.1	0.13474	2662.61	707.8325	
34	196	0.127	8.2	1994.3	0.13467	2685.83	711.0847	
35	206	0.127	8.4	1944.1	0.14574	2833.3	702.078	
36	216	0.127	8.7	1899.4	0.15596	2962.8	693.9596	
37	226	0.127	7.1	2948.7	0.10293	3034.93	864.652	
38	236	0.127	7	3212.9	0.09455	3166.43	902.5571	
39	253	0.127	7.3	3116.9	0.10813	3370.15	888.9708	
40	273	0.128	7.6	3047.7	0.11825	3603.9	875.6066	
41	293	0.128	7.4	3382.6	0.11179	3781.28	922.4615	
42	313	0.128	3	11514.3	0.03323	3825.98	1701.93	
43	348	0.129	5.1	5227.1	0.08145	4257.75	1142.256	
44	403	0.129	5.1	5783.1	0.08031	4652.39	1202.51	
46	470.5	0.13	4.7	7187.3	0.07004	5041.17	1335.184	
46	558	0.131	2.8	9754.8	0.05492	5362.74	1549.259	
47	668	0.132	2.8	10830	0.05393	5841.09	1625.381	
48	795.5	0.133	2.7	12011.5	0.05188	6232.77	1705.3	
49	963	0.135	2	22628.3	0.03044	6888.27	2323.202	
50	Base							

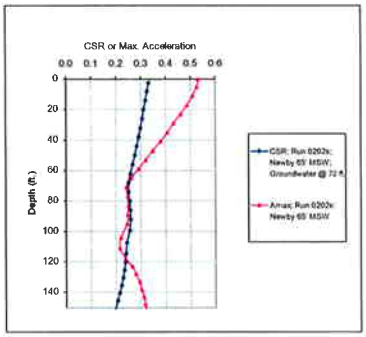
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.53099 Waste (K&M)	Waste (K&M)
5	0.526 Waste (K&M)	Waste (K&M)
11	0.50881 Waste (K&M)	Waste (K&M)
17	0.48872 Waste (K&M)	Waste (K&M)
23	0.46134 Waste (K&M)	Waste (K&M)
29	0.43387 Waste (K&M)	Waste (K&M)
35	0.40822 Waste (K&M)	Waste (K&M)
41	0.38067 Waste (K&M)	Waste (K&M)
47	0.34903 Waste (K&M)	Waste (K&M)
53	0.32113 Waste (K&M)	Waste (K&M)
59	0.29169 Waste (K&M)	Waste (K&M)
65	0.26152 Waste (K&M)	Waste (K&M)
71	0.2421 Waste (K&M)	Waste (K&M)
77	0.24787 Waste (K&M)	Waste (K&M)
83	0.24974 Waste (K&M)	Waste (K&M)
89	0.24746 Waste (K&M)	Waste (K&M)
95	0.24518 Clay PI=22	Clay PI=22
104	0.2202 Clay PI=19	Clay PI=19
111	0.21506 EPRI 51-120'	EPRI 51-120'
118	0.23869 Clay PI=19	Clay PI=19
123	0.26478 Clay PI=19	Clay PI=19
128	0.27003 Clay PI=19	Clay PI=19
133	0.29462 Clay PI=19	Clay PI=19
138	0.30209 Clay PI=19	Clay PI=19
143	0.31266 Clay PI=19	Clay PI=19
148	0.3167 Clay PI=19	Clay PI=19
153	0.32484 Clay PI=19	Clay PI=19
158	0.32852 Clay PI=19	Clay PI=19
163	0.33132 EPRI 51-120'	EPRI 51-120'
168	0.32821 EPRI 51-120'	EPRI 51-120'
173	0.32382 EPRI 51-120'	EPRI 51-120'
178	0.3195 EPRI 51-120'	EPRI 51-120'
183	0.31169 EPRI 121-250	EPRI 121-250
193	0.3003 EPRI 121-250	EPRI 121-250
203	0.28864 EPRI 121-250	EPRI 121-250
213	0.27955 EPRI 121-250	EPRI 121-250
223	0.29085 EPRI 121-250	EPRI 121-250
233	0.2913 EPRI 121-250	EPRI 121-250
243	0.29424 EPRI 121-250	EPRI 121-250
263	0.30382 EPRI 121-250	EPRI 121-250
283	0.3024 EPRI 121-250	EPRI 121-250
303	0.28845 EPRI 251-500	EPRI 251-500
323	0.26507 EPRI 251-500	EPRI 251-500
373	0.25356 EPRI 251-500	EPRI 251-500
433	0.27704 EPRI 251-500	EPRI 251-500
508	0.32229 EPRI501-100C	EPRI501-1000
608	0.30146 EPRI501-100C	EPRI501-1000
728	0.32504 EPRI501-100C	EPRI501-1000
863	0.34132 EPRI501-100C	EPRI501-1000
1063	0.29855	

Run 0202s; Newby 95' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.531 g
Amax =	.531 g
CSR Max =	0.332
CSR Min =	0.076

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.332
11	640.0	0.326
17	1,120.0	0.319
23	1,600.0	0.312
29	2,080.0	0.306
35	2,560.0	0.299
41	3,040.0	0.292
47	3,520.0	0.284
53	4,030.0	0.276
59	4,570.0	0.267
65	5,110.0	0.258
71	5,650.0	0.249
77	5,940.4	0.251
83	6,106.0	0.255
89	6,271.8	0.258
95	6,437.2	0.259
104	6,779.2	0.255
111	7,264.5	0.244
118	7,709.7	0.240
123	8,090.3	0.237
128	8,413.3	0.233
133	8,736.3	0.228
138	9,059.3	0.221
143	9,382.3	0.214
148	9,705.3	0.207
153	10,028.3	0.199
158	10,351.3	0.191
163	10,674.3	0.182
168	10,997.3	0.173
173	11,320.3	0.165
178	11,643.3	0.158
183	11,966.3	0.150
193	12,450.8	0.139
203	13,096.8	0.133
213	13,742.8	0.134
223	14,388.8	0.134
233	15,034.8	0.131
243	15,680.8	0.131
263	16,649.8	0.132
283	17,951.8	0.130
303	19,263.8	0.128
323	20,575.8	0.121
373	22,896.8	0.121
433	26,656.8	0.114
508	31,092.8	0.105
608	37,057.8	0.094
728	44,663.8	0.085
863	53,605.3	0.076
1063	65,630.8	0.068





Soil Profile Identification: Newby 150' MSW
Soil Deposit Number: 6
Period for Soil Column: 3.24 sec
Average Shear Wave Velocity for Soil Column: 1371 ft/sec
Analysis No.: 6
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

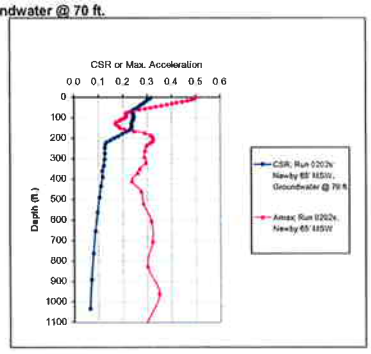
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7.1	451.1	0.02144	96.73	426.1077	
2	7.5	0.08	9.6	478.9	0.05927	283.84	439.0413	
3	12.5	0.08	11	533.2	0.08712	464.52	463.2634	
4	17.5	0.08	11.9	569.4	0.10873	640.85	487.0663	
5	22.5	0.08	12.5	624.7	0.1296	809.68	501.4397	
6	27.5	0.08	12.8	661.4	0.14046	971.1	527.5306	
7	32.5	0.08	13.1	733.8	0.15308	1123.35	543.4653	
8	37.5	0.08	13.4	776.6	0.1631	1266.58	559.0899	
9	42.5	0.08	13.6	822.7	0.17065	1404	575.4448	
10	47.5	0.09	13.2	1004.4	0.15389	1545.69	599.4598	
11	52.5	0.09	13.3	1062.7	0.1585	1684.45	616.6121	
12	57.5	0.09	13.5	1085.1	0.16705	1812.62	623.0768	
13	62.5	0.09	13.5	1149.8	0.16784	1930.93	641.3836	
14	67.5	0.09	13.5	1218.2	0.16736	2038.72	660.1855	
15	72.5	0.09	13.4	1290.3	0.16556	2136.16	679.4415	
16	77.5	0.09	13.5	1322.4	0.16808	2222.78	687.8411	
17	82.5	0.09	13.4	1400.7	0.16423	2300.35	707.9119	
18	87.5	0.09	13.4	1437	0.16477	2367.81	717.0262	
19	93	0.09	13.3	1520.7	0.15968	2432.75	737.8128	
20	99	0.09	13.2	1607.5	0.15505	2492.54	758.3718	
21	105	0.09	13	1696.9	0.14882	2542.28	778.1748	
22	111	0.09	13	1740	0.14842	2582.49	789.0078	
23	117	0.09	12.9	1831.7	0.14284	2616.34	809.5317	
24	123	0.09	12.7	1925.8	0.13753	2648.68	830.0653	
25	130	0.09	12.7	1969.6	0.1375	2708.22	839.4517	
26	138	0.09	12.7	2062.5	0.13555	2795.64	859.0208	
27	146	0.09	12.6	2158.1	0.13333	2877.46	878.7037	
28	154	0.12	12.7	926.6	0.31006	2958.4	498.6358	
29	161.5	0.125	15.3	678.2	0.44666	3026.31	417.3597	
30	170	0.127	14.1	764.8	0.39579	3026.19	440.2945	
31	180	0.127	13.6	878	0.34119	2995.51	471.8167	
32	190	0.127	13.2	973.7	0.301	2930.87	496.8653	
33	200	0.127	13	998.2	0.28457	2840.59	503.0775	
34	210	0.127	10.8	1591.1	0.17062	2714.79	635.1478	
35	220	0.127	10.2	1711.1	0.1503	2571.73	658.9638	
36	230	0.127	10.2	1720	0.15128	2429.08	660.3745	
37	247.5	0.127	8.1	2045.8	0.13495	2760.83	720.2075	
38	275	0.127	7.5	2695.4	0.11472	3092.18	826.6805	
39	305	0.128	7.2	3209	0.10719	3439.86	898.4788	
40	335	0.128	7.4	3315.8	0.11287	3742.45	913.3077	
41	360	0.128	3	11648.1	0.03296	3838.71	1711.79	
42	390	0.128	5.1	5183.6	0.06142	4220.29	1141.028	
43	435	0.129	5.3	5210.5	0.06668	4516.26	1140.441	
44	490	0.129	4.5	7235.7	0.06652	4813.48	1343.92	
45	562.5	0.13	4.6	7507.9	0.06892	5174.12	1363.69	
46	655	0.131	2.8	10149	0.054	5480.72	1579.443	
47	765	0.132	2.6	11553.3	0.0516	5961.19	1678.781	
48	892.5	0.133	2.6	12622.9	0.05015	6330.07	1748.162	
49	1035	0.135	1.9	22688.6	0.02989	6775.53	2325.27	
50	Base							

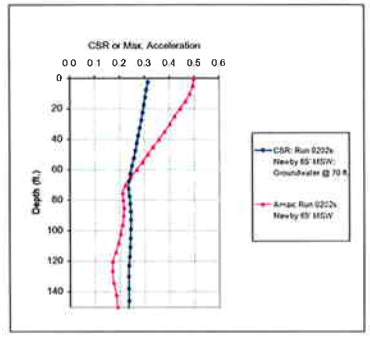
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.49743 Waste (K&M)	Waste (K&M)
5	0.49351 Waste (K&M)	Waste (K&M)
10	0.48226 Waste (K&M)	Waste (K&M)
15	0.46663 Waste (K&M)	Waste (K&M)
20	0.44519 Waste (K&M)	Waste (K&M)
25	0.42201 Waste (K&M)	Waste (K&M)
30	0.40241 Waste (K&M)	Waste (K&M)
35	0.38097 Waste (K&M)	Waste (K&M)
40	0.35814 Waste (K&M)	Waste (K&M)
45	0.33476 Waste (K&M)	Waste (K&M)
50	0.31426 Waste (K&M)	Waste (K&M)
55	0.29242 Waste (K&M)	Waste (K&M)
60	0.26696 Waste (K&M)	Waste (K&M)
65	0.2453 Waste (K&M)	Waste (K&M)
70	0.2227 Waste (K&M)	Waste (K&M)
75	0.21119 Waste (K&M)	Waste (K&M)
80	0.21455 Waste (K&M)	Waste (K&M)
85	0.21605 Waste (K&M)	Waste (K&M)
90	0.21533 Waste (K&M)	Waste (K&M)
96	0.21136 Waste (K&M)	Waste (K&M)
102	0.2042 Waste (K&M)	Waste (K&M)
108	0.19434 Waste (K&M)	Waste (K&M)
114	0.18406 Waste (K&M)	Waste (K&M)
120	0.17204 Waste (K&M)	Waste (K&M)
126	0.17009 Waste (K&M)	Waste (K&M)
134	0.17607 Waste (K&M)	Waste (K&M)
142	0.18526 Waste (K&M)	Waste (K&M)
150	0.30073 Clay PI=22	Clay PI=22
158	0.20958 EPRI 51-120'	EPRI 51-120'
165	0.24676 Clay PI=19	Clay PI=19
175	0.29065 Clay PI=19	Clay PI=19
185	0.31461 Clay PI=19	Clay PI=19
195	0.32344 Clay PI=19	Clay PI=19
205	0.32541 EPRI 51-120'	EPRI 51-120'
215	0.32261 EPRI 51-120'	EPRI 51-120'
225	0.31046 EPRI 51-120'	EPRI 51-120'
235	0.2979 EPRI 121-250	EPRI 121-250
260	0.29061 EPRI 121-250	EPRI 121-250
290	0.28825 EPRI 121-250	EPRI 121-250
320	0.29534 EPRI 121-250	EPRI 121-250
350	0.27027 EPRI 251-500	EPRI 251-500
370	0.26058 EPRI 251-500	EPRI 251-500
410	0.23696 EPRI 251-500	EPRI 251-500
460	0.27619 EPRI 251-500	EPRI 251-500
520	0.28485 EPRI 251-500	EPRI 251-500
605	0.31753 EPRI501-100C	EPRI501-1000
705	0.32279 EPRI501-100C	EPRI501-1000
825	0.30141 EPRI501-100C	EPRI501-1000
960	0.34878 EPRI501-100C	EPRI501-1000
1110	0.29784	

Run 0202s; Newby 150' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.497 g
Amax =	.497 g
CSR Max =	0.314
CSR Min =	0.071

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.314
10	600.0	0.307
15	1,000.0	0.302
20	1,400.0	0.296
25	1,800.0	0.292
30	2,200.0	0.287
35	2,600.0	0.281
40	3,000.0	0.274
45	3,400.0	0.268
50	3,825.0	0.263
55	4,275.0	0.256
60	4,725.0	0.249
65	5,175.0	0.243
70	5,625.0	0.236
75	5,919.0	0.235
80	6,057.0	0.239
85	6,195.0	0.241
90	6,333.0	0.243
96	6,484.8	0.244
102	6,650.4	0.244
108	6,816.0	0.242
114	6,981.6	0.240
120	7,147.2	0.238
126	7,312.8	0.235
134	7,506.0	0.235
142	7,726.8	0.235
150	7,947.6	0.235
158	8,286.4	0.232
165	8,737.9	0.225
175	9,280.0	0.212
185	9,926.0	0.198
195	10,572.0	0.180
205	11,218.0	0.165
215	11,864.0	0.149
225	12,510.0	0.134
235	13,156.0	0.129
260	14,288.5	0.128
290	16,063.0	0.126
320	18,018.0	0.124
350	19,984.0	0.122
370	21,624.0	0.115
410	23,592.0	0.116
460	26,569.0	0.110
520	30,232.0	0.103
605	35,103.0	0.096
705	41,406.0	0.086
825	49,012.0	0.079
960	57,963.5	0.071
1110	68,184.0	0.065





2004-0049 Newby Island Landfill
6/4/08 RMW

SHAKE Run 0202 Summary

Soil Profile Identification: Newby 180' MSW
Soil Deposit Number: 7
Period for Soil Column: 3.20 sec
Average Shear Wave Velocity for Soil Column: 1384 ft/sec
Analysis No.: 7
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

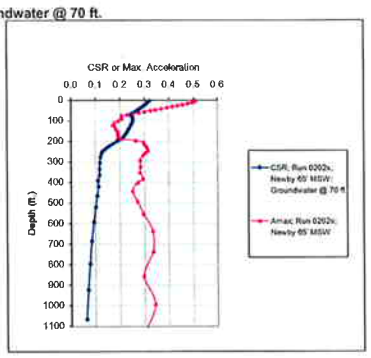
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7.1	450.9	0.0219	98.78	426.0132	
2	7.5	0.08	9.9	478.4	0.06079	290.78	438.812	
3	12.5	0.08	11.1	532.4	0.08966	478.39	462.9158	
4	17.5	0.08	12	587.7	0.11225	659.65	486.3633	
5	22.5	0.08	12.6	622.9	0.13376	833.17	500.7168	
6	27.5	0.08	12.9	689.3	0.14496	999.19	526.7288	
7	32.5	0.08	13.3	730.2	0.15844	1156.89	542.1306	
8	37.5	0.08	13.5	772	0.16984	1311.13	557.4318	
9	42.5	0.08	13.7	817.2	0.17823	1456.55	573.5181	
10	47.5	0.09	13.3	997.8	0.16068	1603.28	597.4869	
11	52.5	0.09	13.4	1055.7	0.16545	1748.66	614.5779	
12	57.5	0.09	13.5	1117.3	0.16824	1879.8	632.254	
13	62.5	0.09	13.7	1142.1	0.17526	2001.96	639.2324	
14	67.5	0.09	13.6	1210	0.17466	2113.46	657.0598	
15	72.5	0.09	13.7	1239.5	0.1788	2213.65	665.9321	
16	77.5	0.09	13.7	1313.6	0.17541	2304.04	685.5468	
17	82.5	0.09	13.8	1391.3	0.17138	2384.23	705.5326	
18	87.5	0.09	13.8	1427.5	0.17191	2453.89	714.6522	
19	95	0.09	13.5	1507.9	0.16858	2541.98	734.502	
20	105	0.09	13.3	1638.7	0.1606	2631.79	766.696	
21	115	0.09	13.1	1778.2	0.15189	2695.82	797.6217	
22	125	0.09	12.9	1918.1	0.14322	2747.11	828.4042	
23	135	0.105	12.2	2388.3	0.11855	2831.32	855.8107	
24	145	0.105	12	2559.7	0.11447	2930.1	885.968	
25	155	0.105	12	2675.1	0.11284	3018.53	905.7305	
26	165	0.105	11.8	2860.5	0.10779	3083.32	936.6003	
27	175	0.105	11.6	3054	0.10253	3131.37	967.7603	
28	184	0.12	12.4	1085.3	0.29183	3105	539.6501	
29	191.5	0.125	14.2	906.5	0.34998	3169.62	483.2333	
30	200	0.127	13.4	989	0.32344	3134.23	495.6647	
31	210	0.127	12.9	1077.8	0.28412	3062.4	522.7513	
32	220	0.127	12.4	1240.8	0.24147	2966	560.889	
33	230	0.127	12.3	1283.1	0.23137	2922.48	565.9069	
34	240	0.127	10.2	1853.9	0.15332	2842.36	685.5075	
35	250	0.127	9.9	1963.1	0.13965	2745.4	705.5004	
36	260	0.127	10	1941.9	0.14454	2806.91	701.6807	
37	277.5	0.127	7.900001	2314.4	0.12656	2929.17	766.0291	
38	305	0.127	7.2	3034.2	0.10538	3197.26	877.0681	
39	335	0.128	7	3501.8	0.10081	3530.27	938.5742	
40	365	0.128	7.2	3606.9	0.10679	3851.87	952.5549	
41	390	0.128	3	12479.9	0.03165	3950.02	1771.856	
42	420	0.128	5	5552.7	0.0782	4342.31	1161.885	
43	465	0.129	5.3	5468.8	0.08514	4655.82	1168.345	
44	520	0.129	4.4	7691.2	0.06378	4905.55	1385.575	
45	592.5	0.13	4.5	7850.8	0.06987	5249.93	1394.483	
46	685	0.131	2.7	10556.9	0.05274	5567.99	1610.87	
47	795	0.132	2.6	12002.5	0.05022	6027.08	1711.108	
48	922.5	0.133	2.5	12926.6	0.04947	6394.72	1769.067	
49	1065	0.135	2	22660.1	0.03001	8799.22	2324.834	
50	Base							

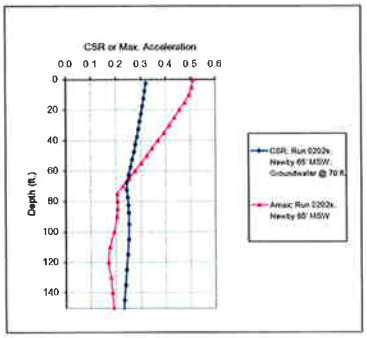
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.51003 Wasle (K&M)	Wasle (K&M)
5	0.50602 Wasle (K&M)	Wasle (K&M)
10	0.49457 Wasle (K&M)	Wasle (K&M)
15	0.47766 Wasle (K&M)	Wasle (K&M)
20	0.45689 Wasle (K&M)	Wasle (K&M)
25	0.4364 Wasle (K&M)	Wasle (K&M)
30	0.41589 Wasle (K&M)	Wasle (K&M)
35	0.39348 Wasle (K&M)	Wasle (K&M)
40	0.36967 Wasle (K&M)	Wasle (K&M)
45	0.34599 Wasle (K&M)	Wasle (K&M)
50	0.32427 Wasle (K&M)	Wasle (K&M)
55	0.30123 Wasle (K&M)	Wasle (K&M)
60	0.27744 Wasle (K&M)	Wasle (K&M)
65	0.26345 Wasle (K&M)	Wasle (K&M)
70	0.23004 Wasle (K&M)	Wasle (K&M)
75	0.20676 Wasle (K&M)	Wasle (K&M)
80	0.2081 Wasle (K&M)	Wasle (K&M)
85	0.20804 Wasle (K&M)	Wasle (K&M)
90	0.20575 Wasle (K&M)	Wasle (K&M)
100	0.19393 Wasle (K&M)	Wasle (K&M)
110	0.17674 Wasle (K&M)	Wasle (K&M)
120	0.17068 Wasle (K&M)	Wasle (K&M)
130	0.16038 Wasle (K&M)	Wasle (K&M)
140	0.186 Wasle (K&M)	Wasle (K&M)
150	0.19148 Wasle (K&M)	Wasle (K&M)
160	0.19221 Wasle (K&M)	Wasle (K&M)
170	0.19439 Wasle (K&M)	Wasle (K&M)
180	0.19298 Clay PI=22	Clay PI=22
188	0.2049 EPRI 51-120'	EPRI 51-120'
196	0.26517 Clay PI=19	Clay PI=19
206	0.29703 Clay PI=19	Clay PI=19
216	0.30181 Clay PI=19	Clay PI=19
225	0.30939 Clay PI=19	Clay PI=19
235	0.31380 EPRI 51-120'	EPRI 51-120'
245	0.31271 EPRI 51-120'	EPRI 51-120'
255	0.30372 EPRI 51-120'	EPRI 51-120'
265	0.29523 EPRI 121-250	EPRI 121-250
290	0.28242 EPRI 121-250	EPRI 121-250
320	0.26368 EPRI 121-250	EPRI 121-250
350	0.28124 EPRI 121-250	EPRI 121-250
380	0.29339 EPRI 251-500	EPRI 251-500
400	0.27208 EPRI 251-500	EPRI 251-500
440	0.25114 EPRI 251-500	EPRI 251-500
490	0.27054 EPRI 251-500	EPRI 251-500
550	0.29428 EPRI 251-500	EPRI 251-500
635	0.33262 EPRI501-1000	EPRI501-1000
735	0.33546 EPRI501-1000	EPRI501-1000
855	0.29573 EPRI501-1000	EPRI501-1000
990	0.34306 EPRI501-1000	EPRI501-1000
1140	0.29796	

Run 0202s; Newby 180' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.510 g
Amax =	.510 g
CSR Max =	0.321
CSR Min =	0.070

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.321
10	600.0	0.315
15	1,000.0	0.311
20	1,400.0	0.306
25	1,800.0	0.301
30	2,200.0	0.295
35	2,600.0	0.289
40	3,000.0	0.284
45	3,400.0	0.278
50	3,825.0	0.272
55	4,275.0	0.266
60	4,725.0	0.259
65	5,175.0	0.251
70	5,625.0	0.244
75	5,919.0	0.243
80	6,057.0	0.247
85	6,195.0	0.250
90	6,333.0	0.252
100	6,540.0	0.253
110	6,816.0	0.251
120	7,092.0	0.247
130	7,368.0	0.242
140	7,719.0	0.238
150	8,145.0	0.234
160	8,571.0	0.229
170	8,997.0	0.223
180	9,423.0	0.216
188	9,866.4	0.209
195	10,316.9	0.200
205	10,858.0	0.188
215	11,504.0	0.173
225	12,150.0	0.160
235	12,796.0	0.148
245	13,442.0	0.137
255	14,088.0	0.127
265	14,734.0	0.124
290	15,864.5	0.120
320	17,641.0	0.118
350	19,564.0	0.117
380	21,562.0	0.116
400	23,202.0	0.111
440	25,170.0	0.112
490	28,147.0	0.108
550	31,810.0	0.100
635	36,681.0	0.093
735	42,084.0	0.084
855	50,590.0	0.077
990	59,531.5	0.070
1140	69,742.0	0.063





Soil Profile Identification: Newby 220' MSW
Soil Deposit Number: 8
Period for Soil Column: 3.4 sec
Average Shear Wave Velocity for Soil Column: 1388 ft/sec
Analysis No.: 8
Earthquake: C:\ACTIVE\PROJECTS\2004\049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

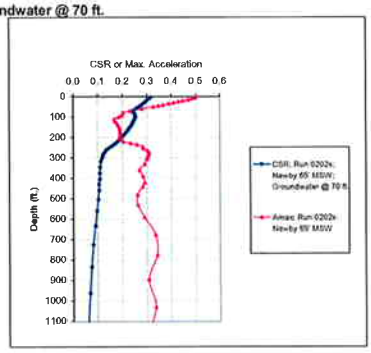
Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)
1	2.5	0.08	7.1	451.1	0.0215	97.01	426.1077	
2	7.5	0.08	9.8	478.9	0.05872	286	439.0413	
3	12.5	0.08	11.1	533	0.08828	470.52	463.1765	
4	17.5	0.08	11.9	589	0.11018	648.92	486.9009	
5	22.5	0.08	12.5	624.3	0.13132	819.81	501.2781	
6	27.5	0.08	12.8	690.9	0.14238	983.53	527.3398	
7	32.5	0.08	13.2	732.7	0.15588	1142.16	543.0578	
8	37.5	0.08	13.5	774.5	0.16724	1295.3	558.3335	
9	42.5	0.09	13.1	944.3	0.15388	1451.13	581.2483	
10	47.5	0.09	13.3	998.2	0.16082	1605.34	597.6067	
11	55	0.09	13.6	1047.3	0.17358	1817.03	612.128	
12	65	0.09	13.8	1135.2	0.18191	2064.06	637.2985	
13	75	0.09	13.7	1276.7	0.17762	2299.77	675.5885	
14	85	0.09	13.6	1386.3	0.17549	2432.71	704.2637	
15	95	0.09	13.5	1506.8	0.16978	2558.3	734.234	
16	105	0.09	13.3	1637.1	0.16197	2651.65	765.3221	
17	115	0.09	13.1	1778.8	0.15303	2719	797.3077	
18	125	0.09	12.9	1918.1	0.14409	2778.06	827.9722	
19	135	0.105	12.2	2388.3	0.11684	2859.77	855.4523	
20	145	0.105	12.1	2558.2	0.11532	2950.18	885.7283	
21	155	0.105	12	2674.5	0.11325	3028.94	905.6379	
22	165	0.105	11.8	2860.1	0.1081	3091.9	936.5348	
23	175	0.105	11.6	3054.3	0.10272	3137.28	967.8079	
24	185	0.105	11.5	3187.9	0.09929	3165.17	988.748	
25	195	0.105	11.3	3326.5	0.09548	3176.18	1010.013	
26	205	0.105	11.1	3538.6	0.08963	3171.78	1041.715	
27	215	0.105	11	3679.2	0.08607	3166.7	1062.209	
28	224	0.12	11.7	1327.4	0.2377	3155.15	596.5129	
29	231.5	0.125	13	1133.4	0.27802	3128.33	540.3368	
30	240	0.127	12.8	1130.8	0.2714	3068.69	535.4501	
31	250	0.127	12.2	1301.8	0.22939	2986.11	574.5108	
32	260	0.127	11.8	1421.8	0.20577	2925.82	600.4064	
33	270	0.127	11.8	1428.6	0.2025	2862.95	601.8405	
34	280	0.127	9.700001	2111	0.13649	2881.25	731.5941	
35	290	0.127	9.8	2067.5	0.14059	2934.89	727.5106	
36	300	0.127	9.9	2063.2	0.14481	2987.76	723.2638	
37	317.5	0.127	7.8	2478	0.12296	3046.05	792.6414	
38	345	0.127	7.2	3153.6	0.10389	3279.33	894.1891	
39	375	0.128	6.9	3730.9	0.09629	3592.33	968.7902	
40	405	0.128	7.1	3752.2	0.10438	3916.69	971.5516	
41	430	0.128	2.9	13059.2	0.03066	4003.79	1812.513	
42	460	0.128	4.9	5857.7	0.07491	4387.88	1213.91	
43	505	0.129	5.2	5782.1	0.08209	4730.21	1199.288	
44	560	0.129	4.4	7911.6	0.06291	4978.86	1405.288	
45	632.5	0.13	4.5	8072	0.066	5327.73	1413.962	
46	725	0.131	2.7	10835.1	0.05188	5621.88	1631.957	
47	835	0.132	2.6	12148.9	0.04888	6059.49	1721.51	
48	962.5	0.133	2.5	13249.2	0.04845	6410.28	1791.006	
49	1105	0.135	2	22850.8	0.03013	6824.51	2324.357	
50	Base							

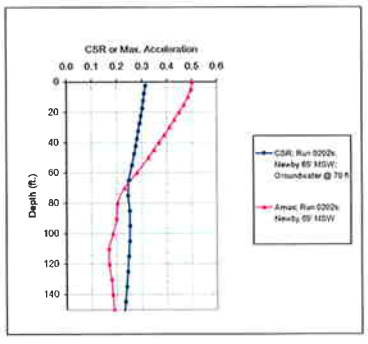
Max Acc (g)	G/Gmax Curve	Damping Curve
0	0.50124 Wasle (K&M)	Wasle (K&M)
5	0.49734 Wasle (K&M)	Wasle (K&M)
10	0.4862 Wasle (K&M)	Wasle (K&M)
15	0.46879 Wasle (K&M)	Wasle (K&M)
20	0.4467 Wasle (K&M)	Wasle (K&M)
25	0.43107 Wasle (K&M)	Wasle (K&M)
30	0.41143 Wasle (K&M)	Wasle (K&M)
35	0.39003 Wasle (K&M)	Wasle (K&M)
40	0.36825 Wasle (K&M)	Wasle (K&M)
45	0.34888 Wasle (K&M)	Wasle (K&M)
50	0.32769 Wasle (K&M)	Wasle (K&M)
60	0.28015 Wasle (K&M)	Wasle (K&M)
70	0.23178 Wasle (K&M)	Wasle (K&M)
80	0.2038 Wasle (K&M)	Wasle (K&M)
90	0.19884 Wasle (K&M)	Wasle (K&M)
100	0.18539 Wasle (K&M)	Wasle (K&M)
110	0.16829 Wasle (K&M)	Wasle (K&M)
120	0.16652 Wasle (K&M)	Wasle (K&M)
130	0.17861 Wasle (K&M)	Wasle (K&M)
140	0.18365 Wasle (K&M)	Wasle (K&M)
150	0.18013 Wasle (K&M)	Wasle (K&M)
160	0.18004 Wasle (K&M)	Wasle (K&M)
170	0.19187 Wasle (K&M)	Wasle (K&M)
180	0.1907 Wasle (K&M)	Wasle (K&M)
190	0.1912 Wasle (K&M)	Wasle (K&M)
200	0.18985 Wasle (K&M)	Wasle (K&M)
210	0.19471 Wasle (K&M)	Wasle (K&M)
220	0.20446 Clay PI=22	Clay PI=22
228	0.23423 EPRI 51-120'	EPRI 51-120'
235	0.25841 Clay PI=19	Clay PI=19
245	0.28252 Clay PI=19	Clay PI=19
255	0.28658 Clay PI=19	Clay PI=19
265	0.30329 Clay PI=19	Clay PI=19
275	0.31091 EPRI 51-120'	EPRI 51-120'
285	0.30762 EPRI 51-120'	EPRI 51-120'
295	0.30311 EPRI 51-120'	EPRI 51-120'
305	0.30041 EPRI 121-250	EPRI 121-250
330	0.2904 EPRI 121-250	EPRI 121-250
360	0.29951 EPRI 121-250	EPRI 121-250
390	0.284 EPRI 121-250	EPRI 121-250
420	0.2903 EPRI 251-500	EPRI 251-500
440	0.28353 EPRI 251-500	EPRI 251-500
480	0.26252 EPRI 251-500	EPRI 251-500
530	0.2636 EPRI 251-500	EPRI 251-500
590	0.28009 EPRI 251-500	EPRI 251-500
675	0.33557 EPRI501-1000	EPRI501-1000
775	0.34368 EPRI501-1000	EPRI501-1000
895	0.30825 EPRI501-1000	EPRI501-1000
1030	0.33654 EPRI501-1000	EPRI501-1000
1180	0.29859	

Run 0202s; Newby 220' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.501 g
Amax =	.501 g
CSR Max =	0.315
CSR Min =	0.068

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.315
10	600.0	0.310
15	1,000.0	0.306
20	1,400.0	0.301
25	1,800.0	0.296
30	2,200.0	0.291
35	2,600.0	0.286
40	3,000.0	0.281
45	3,425.0	0.275
50	3,875.0	0.269
60	4,550.0	0.260
70	5,450.0	0.249
80	6,038.0	0.244
90	6,314.0	0.250
100	6,590.0	0.252
110	6,866.0	0.251
120	7,142.0	0.247
130	7,418.0	0.243
140	7,769.0	0.239
150	8,195.0	0.234
160	8,621.0	0.229
170	9,047.0	0.222
180	9,473.0	0.215
190	9,899.0	0.208
200	10,325.0	0.200
210	10,751.0	0.192
220	11,177.0	0.184
228	11,620.4	0.176
235	12,069.9	0.168
245	12,612.0	0.158
255	13,258.0	0.146
265	13,904.0	0.137
275	14,550.0	0.129
285	15,196.0	0.123
295	15,842.0	0.120
305	16,488.0	0.118
330	17,618.5	0.112
360	19,395.0	0.110
390	21,348.0	0.109
420	23,316.0	0.109
440	24,656.0	0.104
480	26,924.0	0.106
530	29,901.0	0.103
590	33,564.0	0.096
675	38,435.0	0.090
775	44,738.0	0.082
895	52,344.0	0.075
1030	61,285.5	0.068
1180	71,496.0	0.062





2004-0049 Newby Island Landfill
6/4/08 RMW

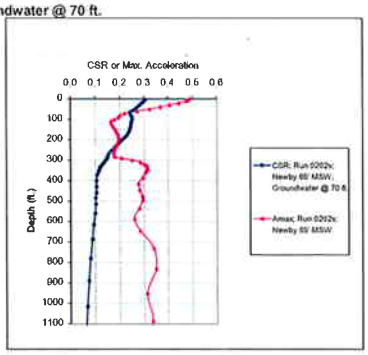
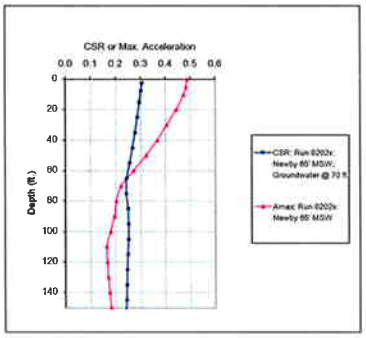
SHAKE Run 0202 Summary

Soil Profile Identification: Newby 275' MSW
Soil Deposit Number: 9
Period for Soil Column: 3.57 sec
Average Shear Wave Velocity for Soil Column: 1384 ft/sec
Analysis No.: 9
Earthquake: C:\ACTIVE\PROJECTS\20040049 - NEWBY ISLAND\SITE RESPONSE\PCOIMA194_51.EQ

No. of Soil Layers: 50
No. of Peak Acceleration Values: 50

Layer	Depth (ft)	Unit Weight (kcf)	Damping (%)	Shear Modulus (ksf)	Max Strain (%)	Max Stress (psf)	Shear Wave Vel. (fps)	Depth Max Acc (ft)	Max Acc (g)	G/Gmax Curve	Damping Curve
1	2.5	0.08	7	451.5	0.02079	93.88	426.2966	0	0.48426	Waste (K&M)	Waste (K&M)
2	7.5	0.08	9.700001	479.7	0.05785	277.54	439.4079	5	0.48074	Waste (K&M)	Waste (K&M)
3	15	0.08	11.5	549.9	0.09882	543.39	470.4623	10	0.47076	Waste (K&M)	Waste (K&M)
4	25	0.08	12.8	618.8	0.1426	882.4	499.0661	20	0.44159	Waste (K&M)	Waste (K&M)
5	35	0.08	13.4	725.2	0.18521	1196.13	540.2712	30	0.40466	Waste (K&M)	Waste (K&M)
6	45	0.08	13.8	814.5	0.18202	1482.58	572.5669	40	0.36583	Waste (K&M)	Waste (K&M)
7	55	0.08	13.9	916.9	0.1889	1731.89	607.4967	50	0.32041	Waste (K&M)	Waste (K&M)
8	65	0.08	14.1	996.4	0.19504	1943.46	633.2659	60	0.27086	Waste (K&M)	Waste (K&M)
9	75	0.08	13.9	1122.1	0.18877	2118.26	672.0456	70	0.22057	Waste (K&M)	Waste (K&M)
10	85	0.09	13.3	1407.8	0.16103	2266.58	709.6534	80	0.20065	Waste (K&M)	Waste (K&M)
11	95	0.09	13.2	1629.2	0.15828	2389.94	738.8714	90	0.19266	Waste (K&M)	Waste (K&M)
12	105	0.09	13	1857.5	0.15017	2489.15	770.0757	100	0.17734	Waste (K&M)	Waste (K&M)
13	115	0.09	12.9	1789.7	0.14362	2570.47	800.1068	110	0.16227	Waste (K&M)	Waste (K&M)
14	125	0.09	12.7	1927	0.13768	2653.1	830.3239	120	0.16442	Waste (K&M)	Waste (K&M)
15	135	0.09	12.7	2018.3	0.13563	2743.55	849.7664	130	0.1589	Waste (K&M)	Waste (K&M)
16	145	0.09	12.5	2164.3	0.13071	2826.97	879.965	140	0.17382	Waste (K&M)	Waste (K&M)
17	155	0.09	12.4	2263.5	0.12794	2898.05	899.9055	150	0.181	Waste (K&M)	Waste (K&M)
18	165	0.09	12.2	2421.8	0.12156	2943.69	930.8417	160	0.18581	Waste (K&M)	Waste (K&M)
19	175	0.09	12	2586.8	0.11532	2983.18	962.0289	170	0.19047	Waste (K&M)	Waste (K&M)
20	185	0.105	11.3	3207.7	0.09369	3005.46	991.8138	180	0.1932	Waste (K&M)	Waste (K&M)
21	195	0.105	11.1	3343.7	0.09025	3017.81	1012.621	190	0.19466	Waste (K&M)	Waste (K&M)
22	205	0.105	10.9	3549	0.08519	3023.26	1043.245	200	0.19341	Waste (K&M)	Waste (K&M)
23	215	0.105	10.8	3689.6	0.08202	3028.41	1063.709	210	0.19174	Waste (K&M)	Waste (K&M)
24	225	0.105	10.7	3834	0.07869	3017	1084.325	220	0.18867	Waste (K&M)	Waste (K&M)
25	237.5	0.105	10.5	4056.1	0.07398	3000.86	1115.29	230	0.18457	Waste (K&M)	Waste (K&M)
26	252.5	0.105	10.3	4298	0.06938	2973.64	1146.461	245	0.17933	Waste (K&M)	Waste (K&M)
27	267.5	0.105	10.1	4522.2	0.06523	2949.62	1177.628	260	0.17589	Waste (K&M)	Waste (K&M)
28	279	0.12	10.6	1637.0	0.18189	2979.2	682.9504	275	0.17463	Clay PI=22	Clay PI=22
29	286.5	0.125	12.3	1272.6	0.24029	3057.82	572.5572	283	0.18	EPRI 51-120'	EPRI 51-120'
30	295	0.127	12.5	1226.3	0.25145	3083.8	557.9022	290	0.20507	Clay PI=19	Clay PI=19
31	305	0.127	12.1	1376.4	0.22349	3078.05	590.7427	300	0.25025	Clay PI=19	Clay PI=19
32	315	0.127	11.8	1480.2	0.20699	3063.92	612.6131	310	0.28466	Clay PI=19	Clay PI=19
33	325	0.127	11.8	1479.6	0.20649	3054.99	612.4982	320	0.30032	Clay PI=19	Clay PI=19
34	335	0.127	9.8	2177.8	0.1386	3018.54	743.0792	330	0.3106	EPRI 51-120'	EPRI 51-120'
35	345	0.127	9.8	2167.6	0.14039	3042.97	741.337	340	0.31416	EPRI 51-120'	EPRI 51-120'
36	355	0.127	9.9	2145.7	0.14379	3085.23	737.5825	350	0.30763	EPRI 51-120'	EPRI 51-120'
37	372.5	0.127	7.7	2593.4	0.11977	3106.04	810.8879	360	0.30363	EPRI 121-250	EPRI 121-250
38	400	0.127	7	3299.9	0.10039	3312.86	914.9953	385	0.29534	EPRI 121-250	EPRI 121-250
39	430	0.128	6.8	3800.3	0.09562	3633.75	977.7592	415	0.27581	EPRI 121-250	EPRI 121-250
40	460	0.128	7	3920.7	0.1006	3944.28	993.1289	445	0.26208	EPRI 121-250	EPRI 121-250
41	485	0.128	2.9	13340.9	0.03043	4059.82	1831.958	475	0.2922	EPRI 251-500	EPRI 251-500
42	515	0.128	4.9	5945.8	0.07458	4434.47	1223.005	495	0.29301	EPRI 251-500	EPRI 251-500
43	560	0.129	5.1	5852.3	0.08161	4776.88	1208.838	535	0.28002	EPRI 251-500	EPRI 251-500
44	615	0.129	4.3	8026.3	0.06235	5004.28	1416.438	585	0.26998	EPRI 251-500	EPRI 251-500
45	687.5	0.13	4.5	8187.3	0.06547	5360.85	1424.055	645	0.2834	EPRI 251-500	EPRI 251-500
46	780	0.131	2.6	16973.1	0.05151	5652.74	1642.317	730	0.33777	EPRI501-1000	EPRI501-1000
47	890	0.132	2.5	12313.3	0.04921	6056.98	1733.118	830	0.347	EPRI501-1000	EPRI501-1000
48	1017.5	0.133	2.5	13397.9	0.04803	6435.14	1801.028	950	0.31113	EPRI501-1000	EPRI501-1000
49	1160	0.135	2	22643.3	0.03023	6845.3	2323.972	1085	0.3334	EPRI501-1000	EPRI501-1000
50	Base							1235	0.29947		

Run 0202s; Newby 275' MSW; Groundwater @ 70 ft.

Groundwater Depth =	70.0 ft.
PGA =	.484 g
Amax =	.484 g
CSR Max =	0.305
CSR Min =	0.067

Depth @ Layer Bottom (ft)	Vert. Eff. Str. (psf)	CSR
5	200.0	0.305
10	600.0	0.301
20	1,200.0	0.294
30	2,000.0	0.287
40	2,800.0	0.278
50	3,600.0	0.268
60	4,400.0	0.256
70	5,200.0	0.243
80	5,888.0	0.242
90	5,914.0	0.249
100	6,190.0	0.251
110	6,466.0	0.250
120	6,742.0	0.248
130	7,018.0	0.246
140	7,294.0	0.244
150	7,570.0	0.243
160	7,846.0	0.240
170	8,122.0	0.236
180	8,398.0	0.231
190	8,749.0	0.223
200	9,175.0	0.214
210	9,601.0	0.205
220	10,027.0	0.196
230	10,453.0	0.188
245	10,985.5	0.176
260	11,624.5	0.166
275	12,263.5	0.156
283	12,813.4	0.151
290	13,282.9	0.150
300	13,905.0	0.145
310	14,451.0	0.138
320	15,097.0	0.132
330	15,743.0	0.126
340	16,389.0	0.120
350	17,035.0	0.116
360	17,681.0	0.113
385	18,811.5	0.107
415	20,568.0	0.105
445	22,541.0	0.105
475	24,509.0	0.105
495	26,149.0	0.101
535	28,117.0	0.103
585	31,094.0	0.100
645	34,757.0	0.094
730	39,628.0	0.088
830	45,931.0	0.080
950	53,637.0	0.074
1085	62,478.5	0.067
1235	72,889.0	0.061