

## LIQUEFACTION POTENTIAL ANALYSIS

YOUR COMPANY, Inc.????  
 PROJECT: ??????????????  
 Job No.: ??????????

Geotechnical Engineering Consultants  
 Los Angeles, L.A. County, California  
 For:??? Company

Calculated By: ???	Date: ?????
Checked By: ??	Date: ???

Conditions: Existing conditions w/groundwater raised to historic high

Layer No.	Mid-layer Depth (ft)	Elevation (ft. MSL)	Depth of layer below Ground Surface (ft)		USCS Soil Symbol	Total Unit Wt. (kcf)	Vertical Total Stress (ksf)	Vertical Effective Stress (ksf)	Overburden Correction w/eff. Stress @ Test Time (Cn)	SPT Blow Count from CPT Data	Sampler Type (N/A)	Hammer Wt/ Sampler Correction Factor (NA)	Short rod Correction Factor (N/A)	Hammer Type Correction Factor (NA)	(N1)60 (blows/ft)	Percent Fines, % Per SBT	Equivalent (N1)60cs for Clean Sand	Cyclic Resistance Ratio M=7.5	Cyclic Resistance Ratio for M= 7.5	Cyclic Resistance Ratio M= 7.5	Induced Stress Reduction Factor (rd)	Induced Stress M= 7.5 (ksf)	Theoretical Factor of Safety
			Top	Bottom																			
1	0.08	999.9	0	0.16	CL	0.120	0.010	0.010	1.700	7	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	1.001	0.003	Non Liq.
2	0.25	999.8	0.16	0.33	CL-ML	0.120	0.029	0.029	1.700	9	-	1	1	1	15	52	Fine grained	>0.6	>0.6	#N/A	1.001	0.010	Non Liq.
3	0.41	999.6	0.3	0.49	CL-ML	0.120	0.049	0.049	1.700	11	-	1	1	1	19	52	Fine grained	>0.6	>0.6	#N/A	1.001	0.018	Non Liq.
4	0.58	999.4	0.49	0.66	CL	0.120	0.069	0.069	1.700	9	-	1	1	1	15	52	Fine grained	>0.6	>0.6	#N/A	1.000	0.025	Non Liq.
5	0.74	999.3	0.66	0.82	OL	0.120	0.089	0.089	1.700	2	-	1	1	1	3	52	Fine grained	>0.6	>0.6	#N/A	1.000	0.032	Non Liq.
6	0.90	999.1	0.82	0.98	CL	0.120	0.108	0.108	1.700	8	-	1	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	1.000	0.038	Non Liq.
7	1.07	998.9	0.98	1.15	CL	0.120	0.128	0.128	1.700	11	-	1	1	1	19	52	Fine grained	>0.6	>0.6	#N/A	0.999	0.045	Non Liq.
8	1.23	998.8	1.15	1.31	CL	0.120	0.148	0.148	1.700	9	-	1	1	1	15	52	Fine grained	>0.6	>0.6	#N/A	0.999	0.053	Non Liq.
9	1.40	998.6	1.31	1.48	CL	0.120	0.167	0.167	1.700	8	-	1	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	0.999	0.060	Non Liq.
10	1.56	998.4	1.48	1.64	CL	0.120	0.187	0.187	1.700	6	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.998	0.067	Non Liq.
11	1.72	998.3	1.64	1.80	CL	0.120	0.206	0.206	1.688	5	-	1	1	1	8	52	Fine grained	>0.6	>0.6	#N/A	0.998	0.073	Non Liq.
12	1.89	998.1	1.80	1.97	CL	0.120	0.226	0.226	1.675	5	-	1	1	1	8	52	Fine grained	>0.6	>0.6	#N/A	0.998	0.080	Non Liq.
13	2.05	998.0	1.97	2.13	CL	0.120	0.246	0.246	1.663	6	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.997	0.087	Non Liq.
14	2.22	997.8	2.13	2.30	CL	0.120	0.266	0.266	1.651	6	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.997	0.094	Non Liq.
15	2.38	997.6	2.3	2.46	CL	0.120	0.286	0.286	1.638	7	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.996	0.101	Non Liq.
16	2.54	997.5	2.46	2.62	CL	0.120	0.305	0.305	1.627	6	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.996	0.108	Non Liq.
17	2.71	997.3	2.62	2.79	CL	0.120	0.325	0.325	1.615	6	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.996	0.115	Non Liq.
18	2.87	997.1	2.79	2.95	CL	0.120	0.344	0.344	1.603	7	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.995	0.122	Non Liq.
19	3.04	997.0	2.95	3.12	CL	0.120	0.364	0.364	1.592	7	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.995	0.129	Non Liq.
20	3.20	996.8	3.12	3.28	CL	0.120	0.384	0.384	1.580	7	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.994	0.136	Non Liq.
21	3.36	996.6	3.28	3.44	CL	0.120	0.403	0.403	1.570	7	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.994	0.143	Non Liq.
22	3.53	996.5	3.44	3.61	CL	0.120	0.423	0.423	1.559	9	-	1	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	0.994	0.150	Non Liq.
23	3.69	996.3	3.61	3.77	CL	0.120	0.443	0.443	1.548	12	-	1	1	1	19	52	Fine grained	>0.6	>0.6	#N/A	0.993	0.157	Non Liq.
24	3.86	996.1	3.77	3.94	CL	0.120	0.463	0.463	1.537	13	-	1	1	1	20	52	Fine grained	>0.6	>0.6	#N/A	0.993	0.164	Non Liq.
25	4.02	996.0	3.94	4.10	CL	0.120	0.482	0.482	1.527	17	-	1	1	1	26	52	Fine grained	>0.6	>0.6	#N/A	0.992	0.170	Non Liq.
26	4.19	995.8	4.10	4.27	CL	0.120	0.502	0.502	1.516	17	-	1	1	1	26	52	Fine grained	>0.6	>0.6	#N/A	0.992	0.177	Non Liq.
27	4.35	995.7	4.27	4.43	CL	0.120	0.522	0.522	1.506	17	-	1	1	1	26	52	Fine grained	>0.6	>0.6	#N/A	0.992	0.184	Non Liq.
28	4.51	995.5	4.43	4.59	CL	0.120	0.541	0.541	1.496	18	-	1	1	1	27	52	Fine grained	>0.6	>0.6	#N/A	0.991	0.191	Non Liq.
29	4.68	995.3	4.59	4.76	CL	0.120	0.561	0.561	1.486	18	-	1	1	1	27	52	Fine grained	>0.6	>0.6	#N/A	0.991	0.198	Non Liq.
30	4.84	995.2	4.76	4.92	CL	0.120	0.581	0.581	1.476	23	-	1	1	1	34	52	Fine grained	>0.6	>0.6	#N/A	0.991	0.205	Non Liq.
31	5.01	995.0	4.92	5.09	CL	0.120	0.601	0.601	1.466	23	-	1	1	1	34	52	Fine grained	>0.6	>0.6	#N/A	0.990	0.212	Non Liq.
32	5.17	994.8	5.09	5.25	CL	0.120	0.620	0.620	1.457	25	-	1	1	1	36	52	Fine grained	>0.6	>0.6	#N/A	0.990	0.219	Non Liq.
33	5.33	994.7	5.25	5.41	CL	0.120	0.640	0.640	1.448	33	-	1	1	1	48	52	Fine grained	>0.6	>0.6	#N/A	0.989	0.225	Non Liq.
34	5.50	994.5	5.41	5.58	CL	0.120	0.659	0.659	1.438	21	-	1	1	1	30	52	Fine grained	>0.6	>0.6	#N/A	0.989	0.232	Non Liq.
35	5.66	994.3	5.58	5.74	ML	0.120	0.679	0.679	1.429	16	-	1	1	1	23	52	Fine grained	>0.6	>0.6	#N/A	0.989	0.239	Non Liq.
36	5.83	994.2	5.74	5.91	SM/ML	0.120	0.699	0.699	1.420	15	-	1	1	1	21	35	31	>0.6	>0.6	#N/A	0.988	0.246	Non Liq.
37	5.99	994.0	5.91	6.07	ML	0.120	0.719	0.719	1.411	16	-	1	1	1	23	52	Fine grained	>0.6	>0.6	#N/A	0.988	0.253	Non Liq.
38	6.15	993.9	6.07	6.23	ML	0.120	0.738	0.738	1.402	13	-	1	1	1	18	52	Fine grained	>0.6	>0.6	#N/A	0.987	0.260	Non Liq.
39	6.32	993.7	6.23	6.40	CL	0.120	0.758	0.758	1.393	13	-	1	1	1	18	52	Fine grained	>0.6	>0.6	#N/A	0.987	0.266	Non Liq.
40	6.48	993.5	6.40	6.56	CL	0.120	0.778	0.778	1.385	10	-	1	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	0.987	0.273	Non Liq.
41	6.65	993.4	6.56	6.73	CL	0.120	0.797	0.797	1.376	8	-	1	1	1	8	52	Fine grained	>0.6	>0.6	#N/A	0.986	0.280	Non Liq.
42	6.81	993.2	6.73	6.89	CL	0.120	0.817	0.817	1.368	8	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.986	0.287	Non Liq.
43	6.97	993.0	6.89	7.05	CL	0.120	0.836	0.836	1.360	13	-	1	1	1	18	52	Fine grained	>0.6	>0.6	#N/A	0.986	0.294	Non Liq.
44	7.14	992.9	7.05	7.22	CL-ML	0.120	0.856	0.856	1.351	9	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	0.985	0.300	Non Liq.
45	7.30	992.7	7.22	7.38	CL	0.120	0.876	0.876	1.343	15	-	1	1	1	20	52	Fine grained	>0.6	>0.6	#N/A	0.985	0.307	Non Liq.
46	7.47	992.5	7.38	7.55	CL-ML	0.120	0.896	0.896	1.335	8	-	1	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.985	0.314	Non Liq.
47	7.63	992.4	7.55	7.71	CL-ML	0.120	0.916	0.916	1.327	9	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	0.984	0.321	Non Liq.
48	7.79	992.2	7.71	7.87	CL	0.120	0.935	0.935	1.319	9	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	0.984	0.328	Non Liq.
49	7.96	992.0	7.87	8.04	CL	0.120	0.955	0.955	1.312	8	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.983	0.334	Non Liq.
50	8.12	991.9	8.04	8.20	CL	0.120	0.974	0.974	1.304	8	-	1	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.983	0.341	Non Liq.
51	8.29	991.7	8.2	8.37	CL	0.120	0.994	0.994	1.296	9	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	0.983	0.348	Non Liq.
52	8.45	991.6	8.37	8.53	CL	0.120	1.014	1.014	1.289	9	-	1	1	1	12	52	Fine grained	>0.6	>0.6	#N/A	0.982	0.355	Non Liq.
53	8.61	991.4	8.53	8.69	CL	0.120	1.033	1.033	1.282	10	-	1	1	1	13	52	Fine grained	>0.6	>0.6	#N/A	0.982	0.361	Non Liq.
54	8.78	991.2	8.69	8.86	CL	0.120	1.053	1.053	1.274	11	-	1	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	0.982	0.368	Non Liq.
55	8.94	991.1	8.86	9.02	CL	0.120	1.073	1.073	1.267	12	-	1	1	1	15	52	Fine grained	>0.6	>0.6	#N/A	0.981	0.375	Non Liq.

**LIQUEFACTION POTENTIAL ANALYSIS**

Layer No.	Mid-layer Depth (ft)	Elevation (ft. MSL)	Depth of layer below Ground Surface (ft)		USCS Soil Symbol	Total Unit Wt. (kcf)	Vertical Total Stress (ksf)	Vertical Effective Stress (ksf)	Overburden Correction w/eff. Stress @ Test Time (Cn) (blows/ft)	SPT Blow Count from CPT Data (blows/ft)	Sampler Type (N/A)	Hammer Wt/ Sampler Correction Factor (NA)	Short rod Correction Factor (N/A)	Hammer Type Correction Factor (NA)	(N1)60 (blows/ft)	Percent Fines, % Per SBT	Equivalent (N1)60cs for Clean Sand	Cyclic Resistance Ratio M=7.5	Cyclic Resistance Ratio for M=7.5	Cyclic Resistance Ratio for M=7.5	Induced Stress Reduction Factor (rd)	Induced Stress M = 7.5 (ksf)	Theoretical Factor of Safety
			Top	Bottom																			
56	9.11	990.9	9.02	9.19	CL	0.120	1.093	1.093	1.260	11	-	1	1	14	52	Fine grained	>0.6	>0.6	#N/A	0.981	0.382	Non Liq.	
57	9.27	990.7	9.19	9.35	CL	0.120	1.112	1.112	1.253	8	-	1	1	10	52	Fine grained	>0.6	>0.6	#N/A	0.981	0.388	Non Liq.	
58	9.43	990.6	9.35	9.51	CL-ML	0.120	1.132	1.132	1.246	6	-	1	1	7	52	Fine grained	>0.6	>0.6	#N/A	0.980	0.395	Non Liq.	
59	9.60	990.4	9.51	9.68	CL	0.120	1.151	1.151	1.239	7	-	1	1	9	52	Fine grained	>0.6	>0.6	#N/A	0.980	0.402	Non Liq.	
60	9.76	990.2	9.68	9.84	CL	0.120	1.171	1.171	1.232	9	-	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.980	0.409	Non Liq.	
61	9.93	990.1	9.84	10.01	CL	0.120	1.191	1.191	1.225	9	-	1	1	11	52	Fine grained	>0.6	>0.6	#N/A	0.979	0.415	Non Liq.	
62	10.09	989.9	10.01	10.17	CL	0.120	1.211	1.205	1.219	5	-	1	1	6	52	Fine grained	>0.6	>0.6	>4.5	0.979	0.422	Non Liq.	
63	10.25	989.8	10.17	10.33	CL	0.120	1.230	1.214	1.212	6	-	1	1	7	52	Fine grained	>0.6	>0.6	>4.5	0.978	0.429	Non Liq.	
64	10.42	989.6	10.33	10.50	CL	0.120	1.250	1.224	1.206	6	-	1	1	7	52	Fine grained	>0.6	>0.6	>4.5	0.978	0.435	Non Liq.	
65	10.58	989.4	10.5	10.66	CL	0.120	1.270	1.233	1.199	7	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.978	0.442	Non Liq.	
66	10.75	989.3	10.66	10.83	CL	0.120	1.289	1.243	1.193	8	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.977	0.449	Non Liq.	
67	10.91	989.1	10.83	10.99	CL-ML	0.120	1.309	1.252	1.186	8	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.977	0.456	Non Liq.	
68	11.07	988.9	10.99	11.15	CL-ML	0.120	1.328	1.262	1.180	8	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.977	0.462	Non Liq.	
69	11.24	988.8	11.15	11.32	CL-ML	0.120	1.348	1.271	1.174	8	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.976	0.469	Non Liq.	
70	11.40	988.6	11.32	11.48	CL-ML	0.120	1.368	1.281	1.168	8	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.976	0.475	Non Liq.	
71	11.57	988.4	11.48	11.65	CL	0.120	1.388	1.290	1.162	12	-	1	1	14	52	Fine grained	>0.6	>0.6	>4.5	0.976	0.482	Non Liq.	
72	11.73	988.3	11.65	11.81	CL	0.120	1.408	1.300	1.156	12	-	1	1	14	52	Fine grained	>0.6	>0.6	>4.5	0.975	0.489	Non Liq.	
73	11.90	988.1	11.81	11.98	CL	0.120	1.427	1.309	1.150	23	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.975	0.496	Non Liq.	
74	12.06	987.9	11.98	12.14	CL	0.120	1.447	1.319	1.144	22	-	1	1	25	52	Fine grained	>0.6	>0.6	>4.5	0.975	0.502	Non Liq.	
75	12.22	987.8	12.14	12.30	CL	0.120	1.466	1.328	1.138	27	-	1	1	31	52	Fine grained	>0.6	>0.6	>4.5	0.974	0.509	Non Liq.	
76	12.39	987.6	12.30	12.47	CL	0.120	1.486	1.337	1.132	23	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.974	0.515	Non Liq.	
77	12.55	987.5	12.47	12.63	CL	0.120	1.506	1.347	1.126	23	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.974	0.522	Non Liq.	
78	12.72	987.3	12.63	12.80	CL	0.120	1.526	1.356	1.121	23	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.973	0.529	Non Liq.	
79	12.88	987.1	12.8	12.96	CL	0.120	1.546	1.366	1.115	23	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.973	0.535	Non Liq.	
80	13.04	987.0	12.96	13.12	CL	0.120	1.565	1.375	1.110	22	-	1	1	24	52	Fine grained	>0.6	>0.6	>4.5	0.973	0.542	Non Liq.	
81	13.21	986.8	13.12	13.29	CL	0.120	1.585	1.385	1.104	22	-	1	1	24	52	Fine grained	>0.6	>0.6	>4.5	0.972	0.549	Non Liq.	
82	13.37	986.6	13.29	13.45	CL	0.120	1.604	1.394	1.099	22	-	1	1	24	52	Fine grained	>0.6	>0.6	>4.5	0.972	0.555	Non Liq.	
83	13.54	986.5	13.45	13.62	CL	0.120	1.624	1.404	1.093	25	-	1	1	27	52	Fine grained	>0.6	>0.6	>4.5	0.971	0.562	Non Liq.	
84	13.70	986.3	13.62	13.78	CL	0.120	1.644	1.413	1.088	34	-	1	1	37	52	Fine grained	>0.6	>0.6	>4.5	0.971	0.569	Non Liq.	
85	13.86	986.1	13.78	13.94	CL-ML	0.120	1.663	1.422	1.083	26	-	1	1	28	52	Fine grained	>0.6	>0.6	>4.5	0.971	0.575	Non Liq.	
86	14.03	986.0	13.94	14.11	CL-ML	0.120	1.683	1.432	1.078	24	-	1	1	26	52	Fine grained	>0.6	>0.6	>4.5	0.970	0.582	Non Liq.	
87	14.19	985.8	14.11	14.27	CL	0.120	1.703	1.441	1.072	33	-	1	1	35	52	Fine grained	>0.6	>0.6	>4.5	0.970	0.588	Non Liq.	
88	14.36	985.6	14.27	14.44	CL	0.120	1.723	1.451	1.067	25	-	1	1	27	52	Fine grained	>0.6	>0.6	>4.5	0.970	0.595	Non Liq.	
89	14.52	985.5	14.44	14.60	SM/ML	0.120	1.742	1.460	1.062	35	-	1	1	37	35	Fine grained	>0.6	>0.6	>4.5	0.969	0.602	Non Liq.	
90	14.68	985.3	14.60	14.76	SM/ML	0.120	1.762	1.470	1.057	28	-	1	1	30	35	Fine grained	>0.6	>0.6	>4.5	0.969	0.608	Non Liq.	
91	14.85	985.2	14.76	14.93	ML	0.120	1.781	1.479	1.052	24	-	1	1	25	52	Fine grained	>0.6	>0.6	>4.5	0.969	0.615	Non Liq.	
92	15.01	985.0	14.93	15.09	CL	0.120	1.801	1.489	1.047	30	-	1	1	31	52	Fine grained	>0.6	>0.6	>4.5	0.968	0.621	Non Liq.	
93	15.18	984.8	15.09	15.26	CL	0.120	1.821	1.498	1.042	18	-	1	1	19	52	Fine grained	>0.6	>0.6	>4.5	0.968	0.628	Non Liq.	
94	15.34	984.7	15.26	15.42	CL	0.120	1.841	1.508	1.038	13	-	1	1	13	52	Fine grained	>0.6	>0.6	>4.5	0.968	0.634	Non Liq.	
95	15.50	984.5	15.42	15.58	CL	0.120	1.860	1.517	1.033	10	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.967	0.641	Non Liq.	
96	15.67	984.3	15.58	15.75	CL	0.120	1.880	1.526	1.028	10	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.967	0.647	Non Liq.	
97	15.83	984.2	15.75	15.91	CL	0.120	1.900	1.536	1.023	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.967	0.654	Non Liq.	
98	16.00	984.0	15.91	16.08	CL	0.120	1.919	1.545	1.019	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.966	0.660	Non Liq.	
99	16.16	983.8	16.08	16.24	CL	0.120	1.939	1.555	1.014	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.966	0.667	Non Liq.	
100	16.32	983.7	16.24	16.40	CL	0.120	1.958	1.564	1.010	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.965	0.673	Non Liq.	
101	16.49	983.5	16.4	16.57	CL	0.120	1.978	1.574	1.005	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.965	0.680	Non Liq.	
102	16.65	983.4	16.57	16.73	CL	0.120	1.998	1.583	1.000	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.965	0.686	Non Liq.	
103	16.82	983.2	16.73	16.90	CL	0.120	2.018	1.593	0.996	10	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.964	0.693	Non Liq.	
104	16.98	983.0	16.90	17.06	CL	0.120	2.038	1.602	0.992	11	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.964	0.699	Non Liq.	
105	17.14	982.9	17.06	17.22	CL	0.120	2.057	1.611	0.987	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.964	0.706	Non Liq.	
106	17.31	982.7	17.22	17.39	CL	0.120	2.077	1.621	0.983	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.963	0.712	Non Liq.	
107	17.47	982.5	17.39	17.55	CL	0.120	2.096	1.630	0.979	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.963	0.719	Non Liq.	
108	17.64	982.4	17.55	17.72	CL	0.120	2.116	1.640	0.974	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.962	0.725	Non Liq.	
109	17.80	982.2	17.72	17.88	CL	0.120	2.136	1.649	0.970	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.962	0.732	Non Liq.	
110	17.96	982.0	17.88	18.04	CL	0.120	2.155	1.658	0.966	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.962	0.738	Non Liq.	
111	18.13	981.9	18.04	18.21	CL	0.120	2.175	1.668	0.962	12	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.961	0.745	Non Liq.	
112	18.29	981.7	18.21	18.37	CL	0.120	2.195	1.678	0.958	16	-	1	1	15	52	Fine grained	>0.6	>0.6	>4.5	0.961	0.751	Non Liq.	
113	18.46	981.5	18.37	18.54	CL	0.120	2.215	1.687	0.953	18	-	1	1	17	52	Fine grained	>0.6	>0.6	>4.5	0.960	0.757	Non Liq.	
114	18.62	981.4	18.54	18.70	CL	0.120	2.234	1.697	0.949	24	-	1	1	23	52	Fine grained	>0.6	>					

**LIQUEFACTION POTENTIAL ANALYSIS**

Layer No.	Mid-layer Depth (ft)	Elevation (ft. MSL)	Depth of layer below Ground Surface (ft)		USCS Soil Symbol	Total Unit Wt. (kcf)	Vertical Total Stress (ksf)	Vertical Effective Stress (ksf)	Overburden Correction w/eff. Stress @ Test Time (Cn)	SPT Blow Count from CPT Data (blows/ft)	Sampler Type (N/A)	Hammer Wt/ Sampler Correction Factor (NA)	Short rod Correction Factor (N/A)	Hammer Type Correction Factor (NA)	(N1)60 (blows/ft)	Percent Fines, % Per SBT	Equivalent (N1)60cs for Clean Sand	Cyclic Resistance Ratio M=7.5	Cyclic Resistance Ratio for M=7.5	Cyclic Resistance Ratio for M=7.5	Induced Stress Reduction Factor (rd)	Induced Stress M = 7.5 (ksf)	Theoretical Factor of Safety
			Top	Bottom																			
121	19.77	980.2	19.69		SP/SM	0.120	2.372	1.763	0.922	31	-	1	1	29	6	29	0.399	0.399	0.703	0.957	0.809	0.87	
122	19.93	980.1	19.85	20.01	SP/SM	0.120	2.392	1.772	0.918	30	-	1	1	28	6	28	0.360	0.360	0.637	0.957	0.815	0.78	
123	20.10	979.9	20.01	20.18	SM/ML	0.120	2.411	2.405	0.745	29	-	1	1	22	35	31	>0.6	>0.6	>4.5	0.956	0.821	Non Liq.	
124	20.26	979.7	20.18	20.34	CL-ML	0.120	2.431	2.415	0.742	28	-	1	1	21	52	Fine grained	>0.6	>0.6	>4.5	0.956	0.828	Non Liq.	
125	20.43	979.6	20.34	20.51	CL	0.120	2.451	2.424	0.740	39	-	1	1	19	52	Fine grained	>0.6	>0.6	>4.5	0.955	0.834	Non Liq.	
126	20.59	979.4	20.51	20.67	CL	0.120	2.471	2.434	0.738	19	-	1	1	24	52	Fine grained	>0.6	>0.6	>4.5	0.955	0.840	Non Liq.	
127	20.75	979.3	20.67	20.83	CL	0.120	2.490	2.443	0.735	11	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.955	0.846	Non Liq.	
128	20.92	979.1	20.83	21.00	CL	0.120	2.510	2.453	0.733	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.954	0.853	Non Liq.	
129	21.08	978.9	21	21.16	CL	0.120	2.530	2.462	0.731	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.954	0.859	Non Liq.	
130	21.25	978.8	21.16	21.33	CL	0.120	2.549	2.472	0.729	8	-	1	1	6	52	Fine grained	>0.6	>0.6	>4.5	0.953	0.865	Non Liq.	
131	21.41	978.6	21.33	21.49	CL-ML	0.120	2.569	2.481	0.726	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.953	0.872	Non Liq.	
132	21.57	978.4	21.49	21.65	CL-ML	0.120	2.588	2.490	0.724	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.952	0.878	Non Liq.	
133	21.74	978.3	21.65	21.82	CL-ML	0.120	2.608	2.500	0.722	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.952	0.884	Non Liq.	
134	21.90	978.1	21.82	21.98	CL-ML	0.120	2.628	2.509	0.720	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.951	0.890	Non Liq.	
135	22.07	977.9	21.98	22.15	CL-ML	0.120	2.648	2.519	0.718	8	-	1	1	6	52	Fine grained	>0.6	>0.6	>4.5	0.951	0.897	Non Liq.	
136	22.23	977.8	22.15	22.31	CL	0.120	2.668	2.528	0.716	12	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.950	0.903	Non Liq.	
137	22.39	977.6	22.31	22.47	CL	0.120	2.687	2.538	0.713	11	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.950	0.909	Non Liq.	
138	22.56	977.4	22.47	22.64	CL	0.120	2.707	2.547	0.711	10	-	1	1	7	52	Fine grained	>0.6	>0.6	>4.5	0.949	0.915	Non Liq.	
139	22.72	977.3	22.64	22.80	CL	0.120	2.726	2.557	0.709	14	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.949	0.921	Non Liq.	
140	22.89	977.1	22.80	22.97	CL	0.120	2.746	2.566	0.707	12	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.948	0.928	Non Liq.	
141	23.05	977.0	22.97	23.13	CL-ML	0.120	2.766	2.576	0.705	11	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.948	0.934	Non Liq.	
142	23.21	976.8	23.13	23.29	CL-ML	0.120	2.785	2.585	0.703	8	-	1	1	6	52	Fine grained	>0.6	>0.6	>4.5	0.947	0.940	Non Liq.	
143	23.38	976.6	23.29	23.46	CL	0.120	2.805	2.594	0.701	13	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.947	0.946	Non Liq.	
144	23.54	976.5	23.46	23.62	CL-ML	0.120	2.825	2.604	0.699	15	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.946	0.952	Non Liq.	
145	23.71	976.3	23.62	23.79	SM/ML	0.120	2.845	2.613	0.697	24	-	1	1	17	35	25	0.293	0.293	0.766	0.946	0.958	0.80	
146	23.87	976.1	23.79	23.95	ML	0.120	2.864	2.623	0.695	20	-	1	1	14	52	Fine grained	>0.6	>0.6	>4.5	0.945	0.964	Non Liq.	
147	24.03	976.0	23.95	24.11	CL	0.120	2.884	2.632	0.693	15	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.945	0.970	Non Liq.	
148	24.20	975.8	24.11	24.28	CL	0.120	2.903	2.642	0.691	13	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.944	0.976	Non Liq.	
149	24.36	975.6	24.28	24.44	CL	0.120	2.923	2.651	0.689	8	-	1	1	6	52	Fine grained	>0.6	>0.6	>4.5	0.944	0.982	Non Liq.	
150	24.53	975.5	24.44	24.61	CL-ML	0.120	2.943	2.661	0.687	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.943	0.988	Non Liq.	
151	24.69	975.3	24.61	24.77	CL-ML	0.120	2.963	2.670	0.685	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.943	0.994	Non Liq.	
152	24.85	975.2	24.77	24.93	CL-ML	0.120	2.982	2.679	0.683	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.942	1.000	Non Liq.	
153	25.02	975.0	24.93	25.10	CL-ML	0.120	3.002	2.689	0.681	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.941	1.006	Non Liq.	
154	25.18	974.8	25.10	25.26	CL-ML	0.120	3.022	2.698	0.679	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.941	1.012	Non Liq.	
155	25.35	974.7	25.26	25.43	CL-ML	0.120	3.041	2.708	0.677	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.940	1.018	Non Liq.	
156	25.51	974.5	25.43	25.59	CL-ML	0.120	3.061	2.717	0.675	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.940	1.024	Non Liq.	
157	25.67	974.3	25.59	25.75	CL-ML	0.120	3.080	2.727	0.673	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.939	1.030	Non Liq.	
158	25.84	974.2	25.75	25.92	CL-ML	0.120	3.100	2.736	0.671	6	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.938	1.036	Non Liq.	
159	26.00	974.0	25.92	26.08	CL-ML	0.120	3.120	2.746	0.669	7	-	1	1	5	52	Fine grained	>0.6	>0.6	>4.5	0.938	1.042	Non Liq.	
160	26.17	973.8	26.08	26.25	CL	0.120	3.140	2.755	0.667	14	-	1	1	9	52	Fine grained	>0.6	>0.6	>4.5	0.937	1.048	Non Liq.	
161	26.33	973.7	26.25	26.41	CL-ML	0.120	3.160	2.765	0.666	12	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.936	1.054	Non Liq.	
162	26.49	973.5	26.41	26.57	CL-ML	0.120	3.179	2.774	0.664	17	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.936	1.059	Non Liq.	
163	26.66	973.3	26.57	26.74	CL	0.120	3.199	2.783	0.662	24	-	1	1	16	52	Fine grained	>0.6	>0.6	>4.5	0.935	1.065	Non Liq.	
164	26.82	973.2	26.74	26.90	CL	0.120	3.218	2.793	0.660	26	-	1	1	17	52	Fine grained	>0.6	>0.6	>4.5	0.935	1.071	Non Liq.	
165	26.99	973.0	26.9	27.07	CL	0.120	3.238	2.802	0.658	41	-	1	1	27	52	Fine grained	>0.6	>0.6	>4.5	0.934	1.077	Non Liq.	
166	27.15	972.9	27.07	27.23	CL	0.120	3.258	2.812	0.656	32	-	1	1	21	52	Fine grained	>0.6	>0.6	>4.5	0.933	1.083	Non Liq.	
167	27.32	972.7	27.23	27.4	CL	0.12	3.2778	2.821	0.655	20.000	-	1	1	1	52	Fine grained	>0.6	>0.6	>4.5	0.932	1.088	Non Liq.	
168	27.48	972.5	27.4	27.56	CL	0.120	3.298	2.831	0.653	17	-	1	1	11	52	Fine grained	>0.6	>0.6	>4.5	0.932	1.094	Non Liq.	
169	27.64	972.4	27.56	27.72	CL	0.120	3.317	2.840	0.651	18	-	1	1	12	52	Fine grained	>0.6	>0.6	>4.5	0.931	1.100	Non Liq.	
170	27.81	972.2	27.72	27.89	CL-ML	0.120	3.337	2.850	0.649	20	-	1	1	13	52	Fine grained	>0.6	>0.6	>4.5	0.930	1.106	Non Liq.	
171	27.97	972.0	27.89	28.05	ML	0.120	3.356	2.859	0.648	25	-	1	1	16	52	Fine grained	>0.6	>0.6	>4.5	0.930	1.111	Non Liq.	
172	28.14	971.9	28.05	28.22	SM/ML	0.120	3.376	2.869	0.646	22	-	1	1	14	35	22	0.243	0.243	0.696	0.929	1.117	0.62	
173	28.30	971.7	28.22	28.38	SM/ML	0.120	3.396	2.878	0.644	17	-	1	1	11	35	18	0.193	0.193	0.557	0.928	1.123	0.50	
174	28.46	971.5	28.38	28.54	CL-ML	0.120	3.415	2.887	0.642	13	-	1	1	8	52	Fine grained	>0.6	>0.6	>4.5	0.927	1.128	Non Liq.	
175	28.63	971.4	28.54	28.71	CL	0.120	3.435	2.897	0.641	16	-	1	1	10	52	Fine grained	>0.6	>0.6	>4.5	0.927	1.134	Non Liq.	
176	28.79	971.2	28.71	28.87	CL	0.120	3.455	2.906	0.639	11	-	1	1	7	52	Fine grained	>0.6	>0.6	>4.5	0.926	1.139	Non Liq.	
177	28.96	971.0	28.87	29.04	CL	0.120	3.475	2.916	0.637	7	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.925	1.145	Non Liq.	
178	29.12	970.9	29.04	29.20	CL	0.120	3.494	2.925	0.635	7	-	1	1	4	52	Fine grained	>0.6	>0.6	>4.5	0.924	1.150</		