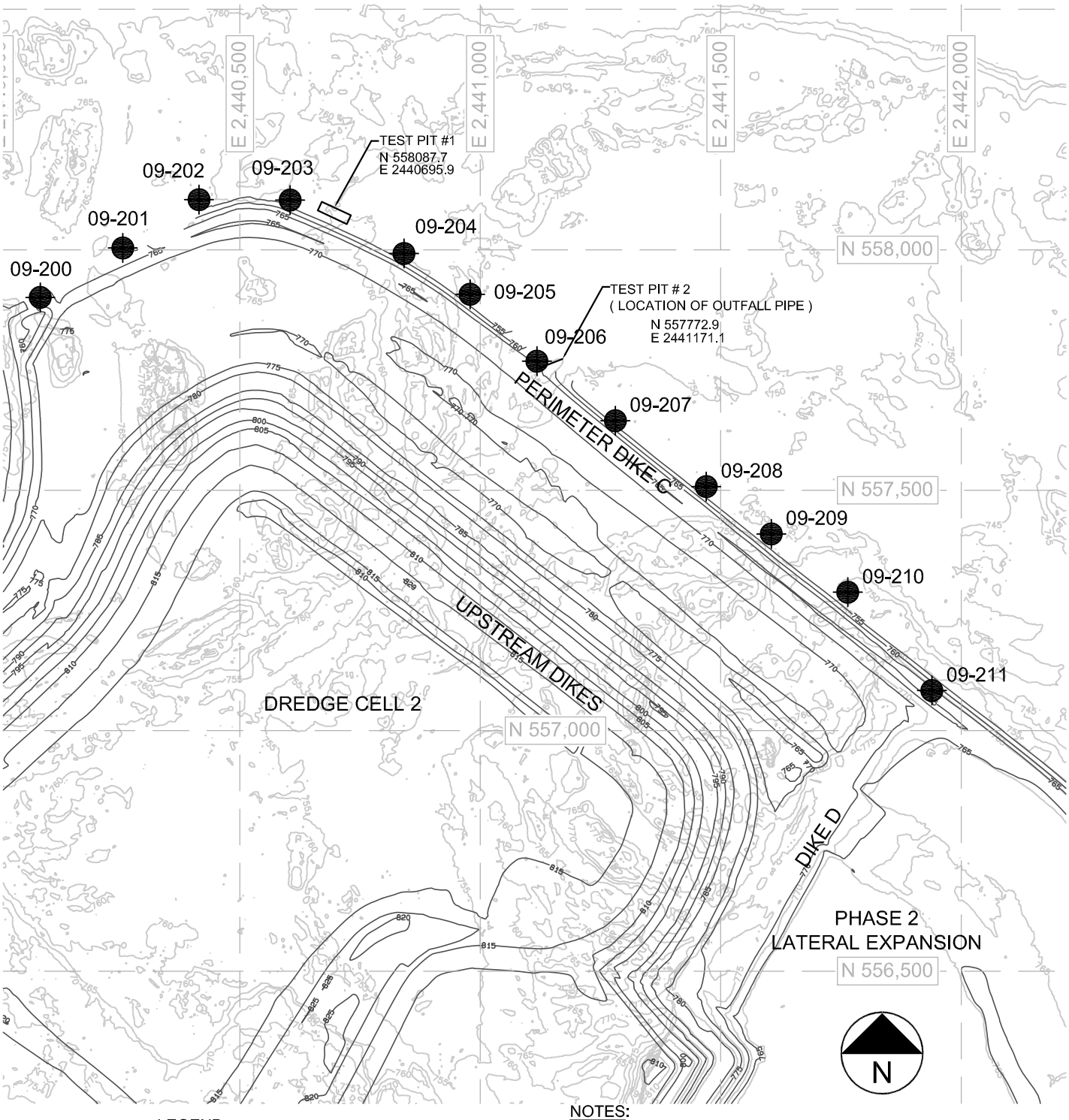

LEGEND

09-200 200 SERIES SOIL BORINGS AND CPTu SOUNDINGS LOCATIONS (AECOM 2009)

PRE-FAILURE CONTOURS

POST FAILURE CONTOURS

NOTES:

1. BASE MAP BASED ON LIDAR DATA COLLECTED ON DECEMBER 24, 2008
2. HORIZONTAL DATUM: NAD 27 (TENNESSEE LAMBERT)
3. VERTICAL DATUM: NGVD 29
4. LOCATION OF CPTu SOUNDING 09-212 SEE FIGURE 2E-7

0 300

1" = 300'

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200 SERIES EXPLORATION LOCATION

ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

Drawn :	DTB	6/12/2009
Checked:	LWB	6/12/2009
Approved:	WHW	6/12/2009
PROJECT NUMBER	60095742	
FIGURE NUMBER	2C-2	

X:\PROJECTS\60095742\KEY\g60095742-KEY 200 SERIES.dwg; 6/12/2009 3:22:19 PM; DEARMAN, DANIEL; STS.stb

200-Series

AECOM

Boring No.	Ground Surface Elevation (GSE)	Easting	Northing
09-200C1	764.94	2,440,085.91	557,901.73
09-201C1	760.83	2,440,257.23	558,004.43
09-201C2	760.77	2,440,258.28	558,003.09
09-202C1	760.24	2,440,412.17	558,100.37
09-203C1	758.98	2,440,604.56	558,104.19
09-204C1	749.73	2,440,824.77	557,992.83
09-205C1	753.60	2,440,983.58	557,910.23
09-206C1	755.05	2,441,121.08	557,766.20
09-207C1	747.37	2,441,280.54	557,645.64
09-208C1	744.76	2,441,467.55	557,507.75
09-208C2	744.60	2,441,468.46	557,507.16
09-209C1	744.51	2,441,601.21	557,399.87
09-210C1	749.43	2,441,760.51	557,280.23
09-211C1--C2	765.35	2,441,959.73	557,060.12
09-212C1	752.03	2,442,519.20	556,308.33
09-212C2--C4	763.96	2,442,457.59	556,279.82

Summary of CPT Field Notes
09-200 Series CPTu Soundings

This Summary of the CPT field notes is intended to provide a summary of the circumstances and reasons surrounding the advancement of multiple CPTu tests (e.g. C1, C2, C3,…etc.) at some of the test locations and provide additional notes from field personnel.

09-200-C1 Very soft materials, some sleeve pressures drop just below zero. Dissipations at 25, 31, 35. Finish at 42.17 ft >300TSF on tip. Rig cannot advance rods further through this material.

09-201-C1 Pore pressure went negative initially. Will wait during rod break for it to stabilize in the positive range. Wait again after 3rd rod advances for pore pressure to stabilize. Dissipation test at 17, 21, 24, 26, 30, 36. End hole at 41.47 ft – out of hydraulics (~300TSF).

09-201-C2 Push full speed. (12-18 cm/s) Pause after the first and third rod break to let the pore pressure stabilize. Stop test at 34 ft. Inclination starting to fluctuate.

09-202-C1 Dissipation tests at 15, 22, 28, 31, 33 ft. Refusal at 39.8 ft. Hydraulics maxed out. Tip pressures around 270 TSF.

09-203-C1. Pore pressure goes negative initially. Give a few minutes to stabilize after advancing first rod. Dissipation at first major increase at 21.5 ft, again at 25 ft. Rods and push head broke at 28 ft. Tip pressure 330TSF.

09-204-C1 Dissipation at 13.8 ft, 16 ft. End at 29.73 ft - Tip pressure at 385TSF, Rig lifting off mats.

09-205-C1 Dissipation tests at 11.9, 18.4, 20.5, 24.8, and 31.3 ft . Side friction went just below zero from 12-15.5 ft. End at 36.09 ft.

09-206-C1 Dissipation tests at 15 and 21 ft. End at 34.91 ft at refusal.

09-207-C1 Dissipation at 12, 22, 24ft. Stop at 29.6 ft – rig lifting off ground in very hard material.

09-208-C1 Perform CPT and notice that the pore pressure readings were all negative whenever the cone was moving. Then they rebounded to a positive condition during rod breaks. Finish hole and pack up and track out.

09-209-C1. Perform a dissipation test at 9 ft.

09-210-C1 Perform dissipation at 15.5 ft, recovers quickly. Refusal around 32 ft.

09-211-C1 Stopped at 15.49 ft. tip pressures >325TSF. Will have to pre-drill and start another test.

09-211-C2 Pre-drill to 20 ft, backfill with sand around cone. Dissipation test at 25, 39, 44, ft. Stop at 48.95 ft. pressure >360 TSF on tip and rig lifting off ground.

09-212-C1 End at 49.41 ft >440TSF on tip and rig lifting off ground. No major pore pressure variations took place during rod breaks. All significant changes were while advancing through formations.

09-212-C2 Stopped with 590TSF on tip at 0.92ft.

09-212-C3 Same location as C2, predrilled to 5 ft. Backfill with sand and start. Stopped at 13.32 ft with 580TSF on tip and no advance.

09-212-C4 Same location as C2 and C3. Predrill to 15.5 ft. Backfill with sand and start again. Stop at 61.42 ft.

AECOM

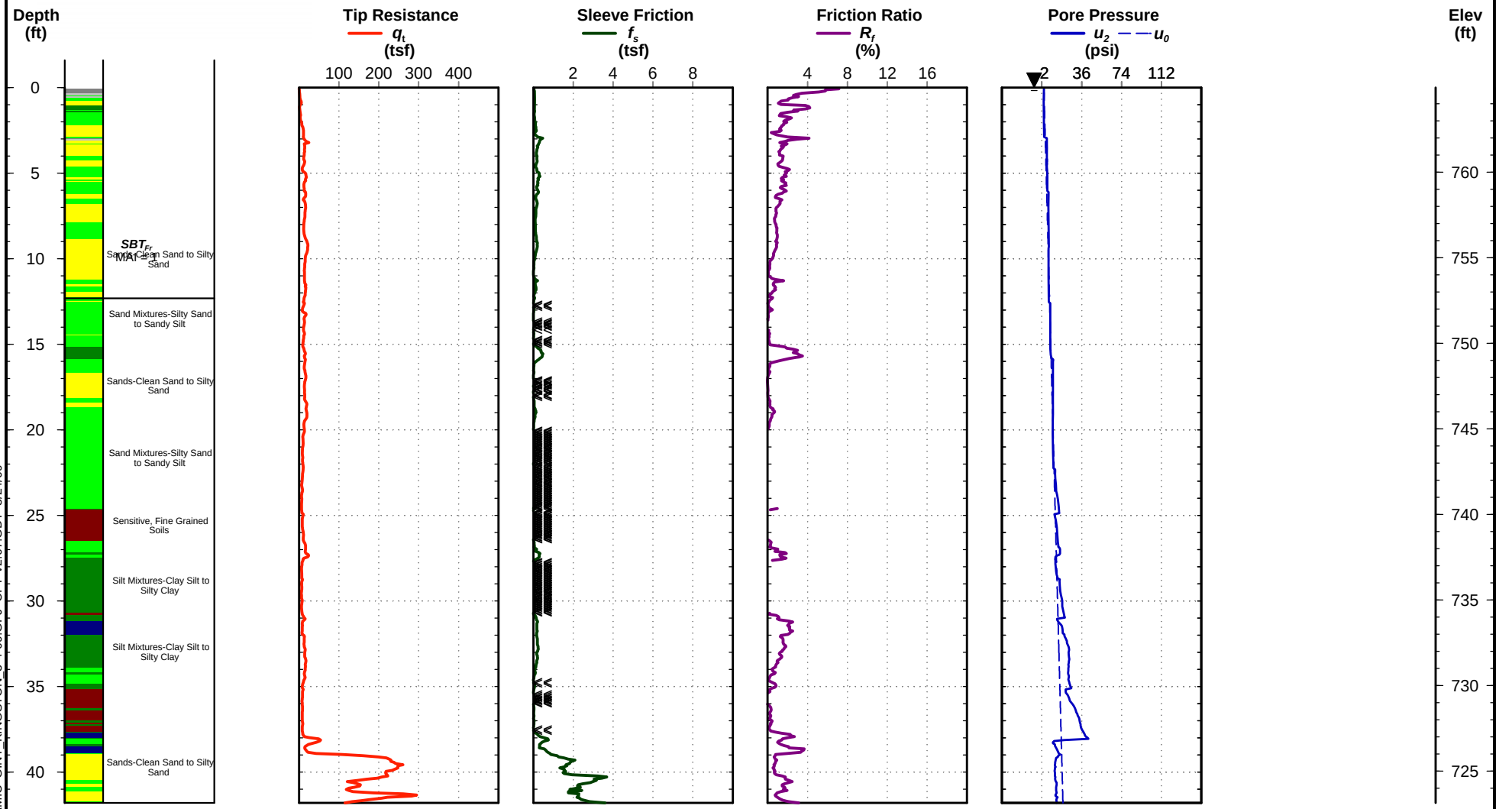
TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) *Cone Penetration Test* **09-200-C1**

Project No: 60095742

Date: Jan. 29, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557901.73
Easting: 2440085.91
Elevation: 764.94 NGVD

Total Depth: 41.8 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

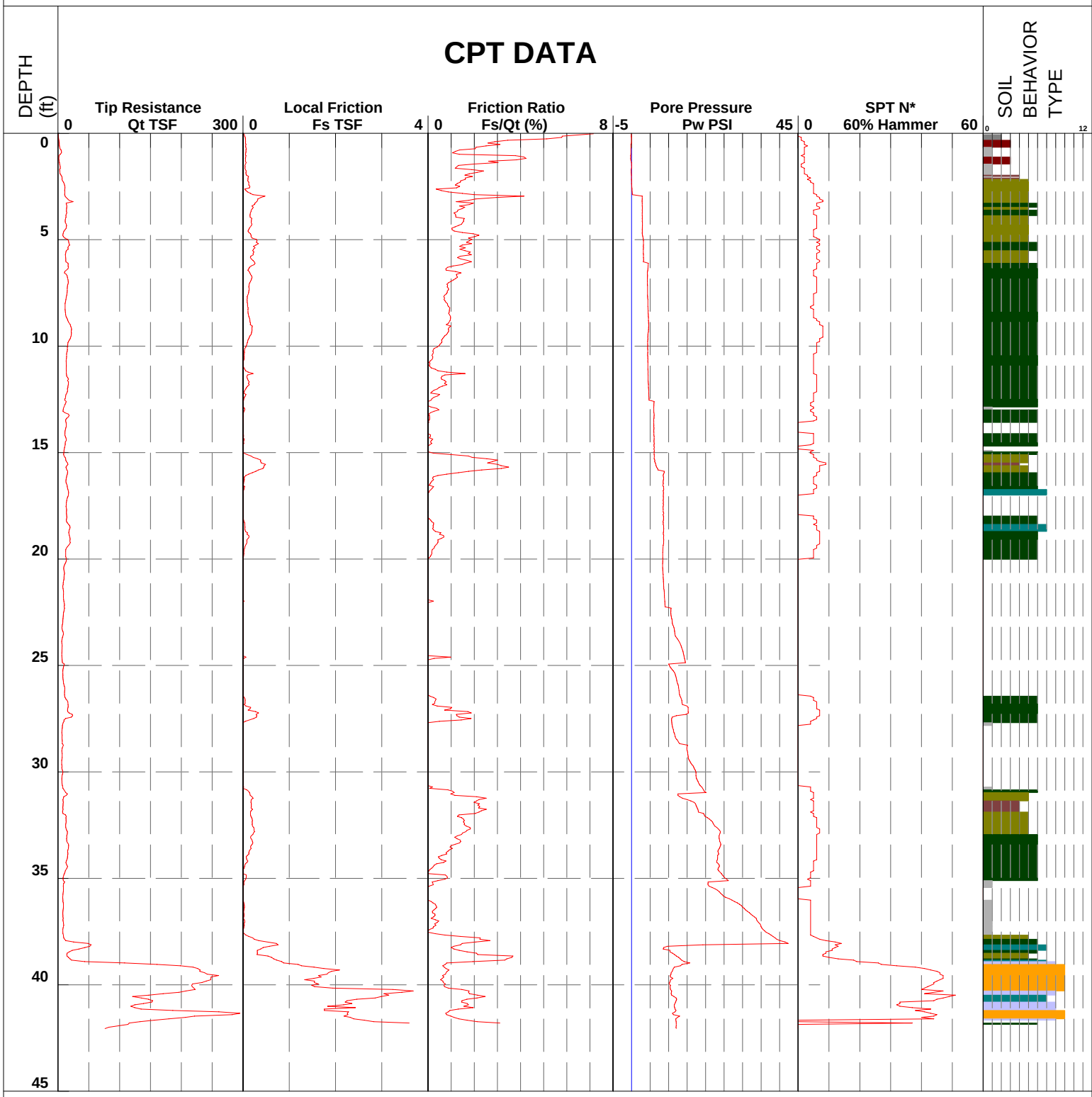
09-200-C1

Electronic Filename: 09-200-C1.cpt

AECOM

09-200-C1	60095742	1/29/2009 7:46:22 AM
DSG0870	TVA-Kingston	CME-850/CAP

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-200-C1 1/29/2009 7:46:22 AM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.34	0.0244	7.150	-0.087	0	2	organic material
0.13	0.60	0.0349	5.810	-0.082	0	2	organic material
0.20	0.84	0.0489	5.783	-0.056	1	2	organic material
0.26	1.00	0.0513	5.136	-0.053	1	2	organic material
0.33	1.57	0.0543	3.446	-0.044	1	3	clay
0.39	1.96	0.0566	2.887	-0.032	2	3	clay
0.46	2.12	0.0550	2.592	-0.017	2	3	clay
0.52	2.12	0.0660	3.114	-0.177	2	3	clay
0.59	2.24	0.0562	2.509	-0.199	3	3	clay
0.66	2.92	0.0604	2.071	-0.196	2	1	sensitive fine grained
0.72	3.40	0.0694	2.041	-0.199	2	1	sensitive fine grained
0.79	4.86	0.0659	1.356	-0.204	2	1	sensitive fine grained
0.85	5.63	0.0663	1.179	-0.211	2	1	sensitive fine grained
0.92	5.71	0.0603	1.057	-0.199	2	1	sensitive fine grained
0.98	3.71	0.0502	1.353	-0.213	2	1	sensitive fine grained
1.05	1.69	0.0640	3.780	-0.240	1	1	sensitive fine grained
1.12	1.44	0.0599	4.146	-0.235	2	3	clay
1.18	1.26	0.0534	4.232	-0.245	2	3	clay
1.25	1.47	0.0561	3.825	-0.221	2	3	clay
1.31	1.94	0.0509	2.624	-0.126	2	3	clay
1.38	2.28	0.0691	3.027	-0.048	2	3	clay
1.44	2.77	0.0550	1.987	-0.010	1	1	sensitive fine grained
1.51	3.32	0.0435	1.311	0.010	1	1	sensitive fine grained
1.57	3.73	0.0462	1.240	0.032	1	1	sensitive fine grained
1.64	3.70	0.0433	1.168	0.012	2	1	sensitive fine grained
1.71	2.78	0.0523	1.881	-0.119	2	1	sensitive fine grained
1.77	2.90	0.0696	2.400	-0.109	2	1	sensitive fine grained
1.84	3.08	0.0653	2.120	-0.107	2	1	sensitive fine grained
1.90	3.54	0.0628	1.777	-0.070	2	1	sensitive fine grained
1.97	4.83	0.0770	1.595	-0.034	3	4	silty clay to clay
2.03	6.25	0.1198	1.916	-0.017	3	1	sensitive fine grained
2.10	6.75	0.1088	1.612	-0.019	4	4	silty clay to clay
2.17	6.66	0.1076	1.616	-0.024	3	5	clayey silt to silty clay
2.23	7.40	0.1042	1.409	-0.007	4	5	clayey silt to silty clay
2.30	9.06	0.1259	1.389	-0.002	4	5	clayey silt to silty clay
2.36	9.90	0.1244	1.257	0.015	5	5	clayey silt to silty clay
2.43	10.66	0.1260	1.182	0.039	5	5	clayey silt to silty clay
2.49	11.14	0.1521	1.365	0.065	5	5	clayey silt to silty clay
2.56	11.36	0.1401	1.233	0.085	5	5	clayey silt to silty clay
2.62	11.07	0.0389	0.352	0.138	5	5	clayey silt to silty clay
2.69	10.95	0.0626	0.572	0.141	5	5	clayey silt to silty clay
2.76	11.24	0.0979	0.871	0.145	5	5	clayey silt to silty clay
2.82	10.99	0.1629	1.482	0.170	5	5	clayey silt to silty clay
2.89	10.81	0.2148	1.988	0.189	6	5	clayey silt to silty clay
2.95	11.46	0.4756	4.150	2.879	6	5	clayey silt to silty clay
3.02	13.18	0.3886	2.949	2.879	7	5	clayey silt to silty clay
3.08	15.72	0.3236	2.059	2.894	7	5	clayey silt to silty clay
3.15	17.97	0.3163	1.761	2.843	8	5	clayey silt to silty clay
3.22	24.35	0.2969	1.219	2.833	8	5	clayey silt to silty clay
3.28	13.24	0.2594	1.959	2.867	6	6	sandy silt to clayey silt
3.35	13.81	0.2477	1.793	2.877	6	6	sandy silt to clayey silt
3.41	14.20	0.1929	1.359	2.894	6	6	sandy silt to clayey silt
3.48	14.04	0.2234	1.591	2.920	7	5	clayey silt to silty clay
3.54	13.94	0.2046	1.468	2.903	7	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	13.77	0.1774	1.288	2.894	5	6	sandy silt to clayey silt
3.67	13.74	0.1744	1.269	2.913	5	6	sandy silt to clayey silt
3.74	14.27	0.1594	1.117	2.889	5	6	sandy silt to clayey silt
3.81	13.11	0.1551	1.183	2.894	5	6	sandy silt to clayey silt
3.87	12.87	0.1539	1.196	2.891	6	5	clayey silt to silty clay
3.94	12.96	0.1558	1.203	2.903	6	5	clayey silt to silty clay
4.00	12.22	0.1916	1.567	2.898	6	5	clayey silt to silty clay
4.07	11.83	0.1813	1.533	2.911	6	5	clayey silt to silty clay
4.13	11.80	0.1820	1.542	2.884	6	5	clayey silt to silty clay
4.20	11.89	0.1768	1.487	2.932	6	5	clayey silt to silty clay
4.27	13.35	0.1938	1.452	2.944	6	5	clayey silt to silty clay
4.33	13.92	0.1826	1.312	2.930	6	5	clayey silt to silty clay
4.40	13.62	0.1589	1.166	2.913	6	5	clayey silt to silty clay
4.46	13.23	0.1363	1.030	2.920	6	5	clayey silt to silty clay
4.53	11.70	0.1215	1.038	2.889	5	5	clayey silt to silty clay
4.59	9.63	0.1090	1.132	2.908	5	5	clayey silt to silty clay
4.66	8.72	0.1289	1.478	2.889	5	5	clayey silt to silty clay
4.72	8.23	0.1611	1.956	2.898	5	5	clayey silt to silty clay
4.79	7.93	0.1746	2.202	2.952	5	5	clayey silt to silty clay
4.86	8.65	0.1747	2.019	3.003	5	5	clayey silt to silty clay
4.92	11.35	0.1986	1.750	3.104	6	5	clayey silt to silty clay
4.99	15.42	0.2924	1.896	3.167	7	5	clayey silt to silty clay
5.05	17.14	0.3050	1.780	3.218	7	5	clayey silt to silty clay
5.12	17.48	0.2896	1.657	3.230	6	6	sandy silt to clayey silt
5.18	17.87	0.3358	1.879	3.209	7	6	sandy silt to clayey silt
5.25	18.79	0.2775	1.476	3.206	7	6	sandy silt to clayey silt
5.31	16.70	0.2283	1.367	3.177	6	6	sandy silt to clayey silt
5.38	16.10	0.2591	1.609	3.211	6	6	sandy silt to clayey silt
5.45	16.52	0.2275	1.377	3.163	6	6	sandy silt to clayey silt
5.51	13.38	0.2131	1.593	3.165	7	5	clayey silt to silty clay
5.58	12.88	0.2357	1.830	3.182	7	5	clayey silt to silty clay
5.64	12.50	0.2177	1.741	3.180	6	5	clayey silt to silty clay
5.71	11.95	0.2235	1.870	3.218	6	5	clayey silt to silty clay
5.77	12.24	0.1702	1.390	3.218	6	5	clayey silt to silty clay
5.84	12.54	0.1592	1.269	3.221	6	5	clayey silt to silty clay
5.91	12.70	0.1803	1.420	3.238	6	5	clayey silt to silty clay
5.97	12.71	0.2161	1.699	3.243	7	5	clayey silt to silty clay
6.04	12.93	0.2430	1.879	3.199	7	5	clayey silt to silty clay
6.10	16.33	0.2610	1.599	4.520	6	6	sandy silt to clayey silt
6.17	16.52	0.2423	1.466	4.505	6	6	sandy silt to clayey silt
6.23	16.43	0.1774	1.080	4.471	6	6	sandy silt to clayey silt
6.30	16.78	0.1411	0.841	4.435	6	6	sandy silt to clayey silt
6.36	16.11	0.1241	0.770	4.415	6	6	sandy silt to clayey silt
6.43	13.61	0.1064	0.782	4.369	5	6	sandy silt to clayey silt
6.50	11.09	0.1318	1.188	4.326	5	6	sandy silt to clayey silt
6.56	10.46	0.1492	1.426	4.263	5	6	sandy silt to clayey silt
6.63	13.35	0.1638	1.227	4.302	5	6	sandy silt to clayey silt
6.69	14.91	0.1841	1.235	4.306	5	6	sandy silt to clayey silt
6.76	15.35	0.1954	1.273	4.287	6	6	sandy silt to clayey silt
6.82	15.85	0.1884	1.189	4.299	6	6	sandy silt to clayey silt
6.89	16.33	0.1798	1.101	4.277	6	6	sandy silt to clayey silt
6.96	16.60	0.1639	0.987	4.299	6	6	sandy silt to clayey silt
7.02	16.71	0.1477	0.884	4.299	6	6	sandy silt to clayey silt
7.09	16.28	0.1327	0.815	4.297	6	6	sandy silt to clayey silt
7.15	15.55	0.1314	0.845	4.314	6	6	sandy silt to clayey silt
7.22	15.23	0.1258	0.826	4.321	6	6	sandy silt to clayey silt
7.28	15.08	0.1332	0.883	4.319	6	6	sandy silt to clayey silt
7.35	15.02	0.1331	0.886	4.319	6	6	sandy silt to clayey silt
7.41	15.04	0.1254	0.834	4.316	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	14.94	0.1234	0.826	4.323	6	6	sandy silt to clayey silt
7.55	14.58	0.1156	0.793	4.326	5	6	sandy silt to clayey silt
7.61	14.05	0.0999	0.711	4.328	5	6	sandy silt to clayey silt
7.68	13.66	0.0925	0.677	4.348	5	6	sandy silt to clayey silt
7.74	13.21	0.0944	0.715	4.352	5	6	sandy silt to clayey silt
7.81	12.82	0.0887	0.692	4.382	5	6	sandy silt to clayey silt
7.87	12.47	0.0915	0.734	4.386	5	6	sandy silt to clayey silt
7.94	11.91	0.0919	0.771	4.386	5	6	sandy silt to clayey silt
8.01	11.66	0.0977	0.838	4.384	5	6	sandy silt to clayey silt
8.07	11.58	0.0982	0.848	4.408	5	6	sandy silt to clayey silt
8.14	11.60	0.1022	0.881	4.428	4	6	sandy silt to clayey silt
8.20	11.65	0.1093	0.938	4.432	4	6	sandy silt to clayey silt
8.27	11.65	0.1076	0.923	4.454	5	6	sandy silt to clayey silt
8.33	11.83	0.1085	0.917	4.483	5	6	sandy silt to clayey silt
8.40	11.95	0.1091	0.913	4.481	5	6	sandy silt to clayey silt
8.46	12.33	0.1099	0.891	4.500	5	6	sandy silt to clayey silt
8.53	12.64	0.1179	0.933	4.517	5	6	sandy silt to clayey silt
8.60	12.99	0.1258	0.968	4.522	5	6	sandy silt to clayey silt
8.66	13.89	0.1356	0.977	4.534	5	6	sandy silt to clayey silt
8.73	15.11	0.1463	0.968	4.556	6	6	sandy silt to clayey silt
8.79	15.89	0.1510	0.950	4.575	6	6	sandy silt to clayey silt
8.86	16.79	0.1539	0.917	4.585	7	6	sandy silt to clayey silt
8.92	18.37	0.1619	0.881	4.605	7	6	sandy silt to clayey silt
8.99	19.85	0.1569	0.790	4.624	7	6	sandy silt to clayey silt
9.06	20.60	0.2025	0.983	4.626	8	6	sandy silt to clayey silt
9.12	21.36	0.1950	0.913	4.602	8	6	sandy silt to clayey silt
9.19	22.11	0.1933	0.874	4.590	8	6	sandy silt to clayey silt
9.25	21.95	0.1956	0.891	4.566	8	6	sandy silt to clayey silt
9.32	21.49	0.1902	0.885	4.556	8	6	sandy silt to clayey silt
9.38	21.87	0.1842	0.842	4.469	8	6	sandy silt to clayey silt
9.45	21.54	0.1736	0.806	4.428	8	6	sandy silt to clayey silt
9.51	21.25	0.1539	0.725	4.420	8	6	sandy silt to clayey silt
9.58	20.55	0.1383	0.673	4.379	8	6	sandy silt to clayey silt
9.65	19.84	0.1254	0.632	4.382	7	6	sandy silt to clayey silt
9.71	18.49	0.1077	0.582	4.369	7	6	sandy silt to clayey silt
9.78	17.01	0.1024	0.602	4.333	7	6	sandy silt to clayey silt
9.84	16.21	0.0943	0.582	4.338	6	6	sandy silt to clayey silt
9.91	15.89	0.0828	0.521	4.350	6	6	sandy silt to clayey silt
9.97	15.57	0.0741	0.476	4.360	6	6	sandy silt to clayey silt
10.04	15.30	0.0610	0.398	4.338	6	6	sandy silt to clayey silt
10.10	15.28	0.0405	0.265	4.348	6	6	sandy silt to clayey silt
10.17	15.16	0.0343	0.226	4.357	6	6	sandy silt to clayey silt
10.24	14.98	0.0312	0.208	4.357	6	6	sandy silt to clayey silt
10.30	14.43	0.0330	0.228	4.360	6	6	sandy silt to clayey silt
10.37	14.00	0.0283	0.202	4.350	5	6	sandy silt to clayey silt
10.43	13.94	0.0228	0.163	4.350	5	6	sandy silt to clayey silt
10.50	14.00	0.0284	0.203	4.377	5	6	sandy silt to clayey silt
10.56	13.80	0.0275	0.199	4.367	5	6	sandy silt to clayey silt
10.63	13.52	0.0225	0.166	4.382	5	6	sandy silt to clayey silt
10.70	13.24	0.0111	0.084	4.365	5	6	sandy silt to clayey silt
10.76	13.36	0.0070	0.052	4.396	5	6	sandy silt to clayey silt
10.83	13.48	0.0109	0.081	4.386	5	6	sandy silt to clayey silt
10.89	13.68	0.0077	0.056	4.406	5	6	sandy silt to clayey silt
10.96	13.67	0.0109	0.080	4.425	5	6	sandy silt to clayey silt
11.02	13.53	0.0195	0.144	4.430	5	6	sandy silt to clayey silt
11.09	13.39	0.0417	0.311	4.428	5	6	sandy silt to clayey silt
11.15	13.60	0.0579	0.426	4.440	5	6	sandy silt to clayey silt
11.22	13.56	0.1099	0.810	4.471	5	6	sandy silt to clayey silt
11.29	13.70	0.2194	1.602	4.447	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	13.97	0.1018	0.728	4.459	6	6	sandy silt to clayey silt
11.42	14.11	0.0846	0.599	4.469	6	6	sandy silt to clayey silt
11.48	15.88	0.0896	0.565	4.462	6	6	sandy silt to clayey silt
11.55	17.13	0.0998	0.582	4.466	6	6	sandy silt to clayey silt
11.61	15.55	0.1125	0.723	4.457	6	6	sandy silt to clayey silt
11.68	17.10	0.1343	0.785	4.495	6	6	sandy silt to clayey silt
11.75	16.80	0.1193	0.710	4.525	6	6	sandy silt to clayey silt
11.81	16.67	0.1358	0.814	4.537	6	6	sandy silt to clayey silt
11.88	16.14	0.0996	0.617	4.549	6	6	sandy silt to clayey silt
11.94	16.15	0.0775	0.480	4.554	6	6	sandy silt to clayey silt
12.01	15.26	0.0616	0.403	4.605	6	6	sandy silt to clayey silt
12.07	15.56	0.0393	0.253	4.621	6	6	sandy silt to clayey silt
12.14	15.19	0.0262	0.172	4.631	6	6	sandy silt to clayey silt
12.20	14.19	0.0162	0.114	4.626	5	6	sandy silt to clayey silt
12.27	13.00	0.0653	0.502	4.638	5	6	sandy silt to clayey silt
12.34	12.50	0.0522	0.417	4.646	5	6	sandy silt to clayey silt
12.40	12.24	0.0312	0.254	4.682	5	6	sandy silt to clayey silt
12.47	11.65	0.0191	0.164	4.704	5	6	sandy silt to clayey silt
12.53	10.83	0.0147	0.135	4.726	5	6	sandy silt to clayey silt
12.60	13.47	0.0014	0.010	6.095	5	6	sandy silt to clayey silt
12.66	12.79	-0.0078	-0.061	6.049	4	6	sandy silt to clayey silt
12.73	11.58	-0.0181	-0.156	6.015	4	6	sandy silt to clayey silt
12.80	10.57	-0.0213	-0.202	6.027	4	6	sandy silt to clayey silt
12.86	9.62	0.0121	0.126	5.993	5	1	sensitive fine grained
12.93	8.86	0.0332	0.375	6.000	5	1	sensitive fine grained
12.99	8.37	0.0394	0.470	5.993	4	6	sandy silt to clayey silt
13.06	8.10	0.0213	0.262	6.005	4	6	sandy silt to clayey silt
13.12	10.96	0.0116	0.106	6.037	5	6	sandy silt to clayey silt
13.19	16.68	0.0056	0.033	6.080	5	6	sandy silt to clayey silt
13.25	18.17	0.0103	0.057	6.092	5	6	sandy silt to clayey silt
13.32	16.81	0.0111	0.066	6.049	6	6	sandy silt to clayey silt
13.39	14.17	0.0091	0.064	6.051	6	6	sandy silt to clayey silt
13.45	12.69	0.0077	0.060	5.981	6	6	sandy silt to clayey silt
13.52	12.41	0.0018	0.015	6.003	5	6	sandy silt to clayey silt
13.58	12.96	0.0037	0.029	6.010	0	0	<out of range>
13.65	13.47	-0.0021	-0.016	6.003	0	0	<out of range>
13.71	13.55	-0.0069	-0.051	6.032	0	0	<out of range>
13.78	13.31	-0.0140	-0.105	6.000	0	0	<out of range>
13.85	12.79	-0.0216	-0.169	6.042	0	0	<out of range>
13.91	12.14	-0.0099	-0.081	6.032	0	0	<out of range>
13.98	11.64	-0.0027	-0.023	5.998	0	0	<out of range>
14.04	11.41	-0.0004	-0.003	6.032	0	0	<out of range>
14.11	11.27	-0.0030	-0.027	6.017	5	6	sandy silt to clayey silt
14.17	11.17	0.0118	0.106	6.017	5	6	sandy silt to clayey silt
14.24	11.99	0.0120	0.100	6.085	5	6	sandy silt to clayey silt
14.30	12.82	0.0072	0.056	6.083	5	6	sandy silt to clayey silt
14.37	13.47	0.0274	0.203	6.083	5	6	sandy silt to clayey silt
14.44	13.30	0.0193	0.145	6.061	5	6	sandy silt to clayey silt
14.50	11.96	0.0120	0.101	6.049	5	6	sandy silt to clayey silt
14.57	11.79	0.0189	0.160	6.126	5	6	sandy silt to clayey silt
14.63	11.84	0.0088	0.074	6.044	4	6	sandy silt to clayey silt
14.70	11.16	-0.0049	-0.044	6.061	0	0	<out of range>
14.76	10.56	-0.0162	-0.154	6.151	0	0	<out of range>
14.83	10.30	-0.0235	-0.228	6.037	0	0	<out of range>
14.90	9.77	-0.0206	-0.211	6.160	5	1	sensitive fine grained
14.96	9.78	-0.0060	-0.061	6.109	4	6	sandy silt to clayey silt
15.03	9.37	0.0214	0.228	6.102	4	6	sandy silt to clayey silt
15.09	9.23	0.0904	0.979	6.095	5	5	clayey silt to silty clay
15.16	10.02	0.1749	1.746	6.146	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	11.60	0.2213	1.907	6.126	5	5	clayey silt to silty clay
15.29	12.39	0.3152	2.544	6.080	6	5	clayey silt to silty clay
15.35	12.70	0.3814	3.003	6.269	6	5	clayey silt to silty clay
15.42	13.60	0.3796	2.792	6.235	7	5	clayey silt to silty clay
15.49	15.51	0.3989	2.572	6.434	9	4	silty clay to clay
15.55	16.18	0.4880	3.015	6.536	9	4	silty clay to clay
15.62	14.58	0.4603	3.158	6.614	7	5	clayey silt to silty clay
15.68	12.88	0.4488	3.486	6.766	7	5	clayey silt to silty clay
15.75	13.64	0.4322	3.168	6.996	7	5	clayey silt to silty clay
15.81	14.31	0.3326	2.325	7.156	7	5	clayey silt to silty clay
15.88	15.81	0.2770	1.752	8.807	7	5	clayey silt to silty clay
15.94	15.47	0.2036	1.316	8.804	6	6	sandy silt to clayey silt
16.01	15.12	0.1231	0.814	8.598	6	6	sandy silt to clayey silt
16.08	14.39	0.0613	0.426	8.560	6	6	sandy silt to clayey silt
16.14	13.93	0.0310	0.223	8.615	5	6	sandy silt to clayey silt
16.21	13.41	0.0264	0.197	8.656	5	6	sandy silt to clayey silt
16.27	13.08	0.0309	0.236	8.601	5	6	sandy silt to clayey silt
16.34	12.85	0.0216	0.168	8.528	5	6	sandy silt to clayey silt
16.40	13.00	0.0159	0.122	8.530	5	6	sandy silt to clayey silt
16.47	13.86	0.0119	0.086	8.567	5	6	sandy silt to clayey silt
16.54	14.82	0.0079	0.053	8.443	6	6	sandy silt to clayey silt
16.60	14.98	0.0354	0.237	8.615	6	6	sandy silt to clayey silt
16.67	15.55	0.0284	0.183	8.659	6	6	sandy silt to clayey silt
16.73	16.15	0.0209	0.129	8.681	5	7	silty sand to sandy silt
16.80	16.67	0.0110	0.066	8.562	5	7	silty sand to sandy silt
16.86	17.32	0.0057	0.033	8.615	5	7	silty sand to sandy silt
16.93	17.24	0.0012	0.007	8.598	5	7	silty sand to sandy silt
16.99	16.91	0.0006	0.004	8.577	0	0	<out of range>
17.06	16.28	-0.0059	-0.036	8.572	0	0	<out of range>
17.13	15.34	-0.0114	-0.074	8.596	0	0	<out of range>
17.19	14.48	-0.0167	-0.115	8.584	0	0	<out of range>
17.26	14.06	-0.0191	-0.136	8.543	0	0	<out of range>
17.32	13.76	-0.0104	-0.076	8.596	0	0	<out of range>
17.39	13.43	-0.0023	-0.017	8.545	0	0	<out of range>
17.45	13.67	0.0010	0.007	8.598	0	0	<out of range>
17.52	13.01	-0.0029	-0.022	8.530	0	0	<out of range>
17.59	13.38	-0.0019	-0.014	8.509	0	0	<out of range>
17.65	13.87	-0.0044	-0.032	8.552	0	0	<out of range>
17.72	13.98	-0.0022	-0.016	8.564	0	0	<out of range>
17.78	13.83	0.0021	0.015	8.555	0	0	<out of range>
17.85	13.78	0.0012	0.009	8.678	0	0	<out of range>
17.91	13.92	-0.0064	-0.046	8.494	0	0	<out of range>
17.98	14.10	-0.0111	-0.079	8.613	5	6	sandy silt to clayey silt
18.04	14.26	-0.0053	-0.037	8.632	5	6	sandy silt to clayey silt
18.11	14.01	0.0073	0.052	8.637	5	6	sandy silt to clayey silt
18.18	13.67	0.0163	0.119	8.603	6	6	sandy silt to clayey silt
18.24	14.00	0.0214	0.153	8.492	6	6	sandy silt to clayey silt
18.31	15.28	0.0371	0.243	8.569	6	6	sandy silt to clayey silt
18.37	17.30	0.0415	0.240	8.564	5	7	silty sand to sandy silt
18.44	18.93	0.0414	0.219	8.666	6	7	silty sand to sandy silt
18.50	19.67	0.0444	0.226	8.637	6	7	silty sand to sandy silt
18.57	19.30	0.0388	0.201	8.686	6	7	silty sand to sandy silt
18.64	18.25	0.0441	0.242	8.666	6	7	silty sand to sandy silt
18.70	17.70	0.0552	0.312	8.642	7	6	sandy silt to clayey silt
18.77	17.51	0.0963	0.550	8.577	7	6	sandy silt to clayey silt
18.83	17.92	0.0888	0.496	8.589	7	6	sandy silt to clayey silt
18.90	18.35	0.1221	0.665	8.669	7	6	sandy silt to clayey silt
18.96	19.12	0.1319	0.690	8.642	7	6	sandy silt to clayey silt
19.03	19.57	0.1143	0.584	8.618	7	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	19.58	0.0834	0.426	8.673	7	6	sandy silt to clayey silt
19.16	19.28	0.0829	0.430	8.644	7	6	sandy silt to clayey silt
19.23	20.12	0.0852	0.423	8.652	7	6	sandy silt to clayey silt
19.29	19.23	0.0740	0.385	8.620	7	6	sandy silt to clayey silt
19.36	17.16	0.0552	0.322	8.528	6	6	sandy silt to clayey silt
19.42	15.47	0.0431	0.279	8.497	6	6	sandy silt to clayey silt
19.49	13.71	0.0358	0.261	8.465	6	6	sandy silt to clayey silt
19.55	12.77	0.0237	0.186	8.438	5	6	sandy silt to clayey silt
19.62	12.40	0.0210	0.169	8.441	5	6	sandy silt to clayey silt
19.69	12.37	0.0197	0.159	8.436	5	6	sandy silt to clayey silt
19.75	12.46	0.0206	0.166	8.417	5	6	sandy silt to clayey silt
19.82	12.40	0.0158	0.127	8.429	5	6	sandy silt to clayey silt
19.88	12.59	0.0131	0.104	8.419	5	6	sandy silt to clayey silt
19.95	13.23	0.0051	0.039	8.434	5	6	sandy silt to clayey silt
20.01	13.70	-0.0027	-0.020	8.441	0	0	<out of range>
20.08	13.68	-0.0158	-0.116	8.426	0	0	<out of range>
20.14	12.85	-0.0299	-0.233	8.421	0	0	<out of range>
20.21	11.81	-0.0373	-0.316	8.387	0	0	<out of range>
20.28	10.64	-0.0340	-0.320	8.383	0	0	<out of range>
20.34	9.79	-0.0339	-0.346	8.378	0	0	<out of range>
20.41	9.31	-0.0317	-0.341	8.387	0	0	<out of range>
20.47	9.31	-0.0333	-0.357	8.424	0	0	<out of range>
20.54	9.77	-0.0296	-0.303	8.436	0	0	<out of range>
20.60	10.20	-0.0293	-0.287	8.467	0	0	<out of range>
20.67	10.57	-0.0277	-0.262	8.484	0	0	<out of range>
20.73	10.34	-0.0238	-0.230	8.523	0	0	<out of range>
20.80	10.01	-0.0339	-0.339	8.533	0	0	<out of range>
20.87	9.71	-0.0410	-0.422	8.557	0	0	<out of range>
20.93	9.65	-0.0380	-0.394	8.569	0	0	<out of range>
21.00	9.29	-0.0435	-0.468	8.606	0	0	<out of range>
21.06	8.78	-0.0454	-0.517	8.601	0	0	<out of range>
21.13	8.44	-0.0453	-0.537	8.632	0	0	<out of range>
21.19	8.45	-0.0450	-0.532	8.647	0	0	<out of range>
21.26	7.97	-0.0455	-0.571	8.659	0	0	<out of range>
21.33	8.03	-0.0444	-0.553	8.700	0	0	<out of range>
21.39	8.31	-0.0457	-0.550	8.700	0	0	<out of range>
21.46	8.65	-0.0425	-0.491	8.785	0	0	<out of range>
21.52	8.98	-0.0434	-0.483	8.804	0	0	<out of range>
21.59	9.09	-0.0460	-0.507	8.831	0	0	<out of range>
21.65	9.04	-0.0446	-0.493	8.831	0	0	<out of range>
21.72	8.94	-0.0433	-0.484	8.877	0	0	<out of range>
21.78	8.91	-0.0453	-0.508	8.892	0	0	<out of range>
21.85	8.99	-0.0409	-0.455	8.909	0	0	<out of range>
21.92	9.19	-0.0400	-0.435	8.938	0	0	<out of range>
21.98	9.50	0.0221	0.233	8.974	0	0	<out of range>
22.05	9.95	-0.0059	-0.059	8.998	0	0	<out of range>
22.11	10.47	-0.0142	-0.135	9.013	0	0	<out of range>
22.18	10.41	-0.0160	-0.154	9.047	0	0	<out of range>
22.24	10.06	-0.0227	-0.226	9.066	0	0	<out of range>
22.31	10.65	-0.0305	-0.286	10.663	0	0	<out of range>
22.38	10.11	-0.0373	-0.369	10.617	0	0	<out of range>
22.44	9.68	-0.0398	-0.412	10.622	0	0	<out of range>
22.51	9.26	-0.0420	-0.454	10.602	0	0	<out of range>
22.57	8.84	-0.0480	-0.543	10.632	0	0	<out of range>
22.64	8.55	-0.0486	-0.568	10.644	0	0	<out of range>
22.70	8.43	-0.0515	-0.611	10.712	0	0	<out of range>
22.77	8.25	-0.0560	-0.679	10.787	0	0	<out of range>
22.83	8.08	-0.0616	-0.762	10.893	0	0	<out of range>
22.90	8.00	-0.0658	-0.823	10.961	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	7.94	-0.0567	-0.715	10.998	0	0	<out of range>
23.03	7.52	-0.0515	-0.685	11.036	0	0	<out of range>
23.10	7.10	-0.0480	-0.676	11.148	0	0	<out of range>
23.16	6.72	-0.0423	-0.629	11.337	0	0	<out of range>
23.23	6.45	-0.0423	-0.655	11.458	0	0	<out of range>
23.29	6.68	-0.0507	-0.759	11.550	0	0	<out of range>
23.36	7.41	-0.0577	-0.779	11.586	0	0	<out of range>
23.43	8.33	-0.0665	-0.798	11.630	0	0	<out of range>
23.49	8.86	-0.0707	-0.798	11.691	0	0	<out of range>
23.56	8.52	-0.0746	-0.876	11.729	0	0	<out of range>
23.62	7.83	-0.0697	-0.890	11.858	0	0	<out of range>
23.69	7.15	-0.0654	-0.914	12.122	0	0	<out of range>
23.75	6.67	-0.0569	-0.853	12.367	0	0	<out of range>
23.82	6.28	-0.0637	-1.014	12.638	0	0	<out of range>
23.88	6.14	-0.0608	-0.990	12.866	0	0	<out of range>
23.95	6.25	-0.0644	-1.030	13.077	0	0	<out of range>
24.02	6.57	-0.0659	-1.003	13.222	0	0	<out of range>
24.08	6.78	-0.0652	-0.961	13.389	0	0	<out of range>
24.15	6.53	-0.0658	-1.008	13.511	0	0	<out of range>
24.21	6.64	-0.0635	-0.956	13.634	0	0	<out of range>
24.28	6.41	-0.0646	-1.008	13.782	0	0	<out of range>
24.34	6.38	-0.0692	-1.084	13.894	0	0	<out of range>
24.41	6.21	-0.0664	-1.069	13.959	0	0	<out of range>
24.48	6.22	-0.0689	-1.107	14.068	0	0	<out of range>
24.54	6.25	-0.0650	-1.041	14.143	0	0	<out of range>
24.61	6.37	0.0624	0.980	14.216	0	0	<out of range>
24.67	6.51	0.0170	0.261	14.298	0	0	<out of range>
24.74	6.68	-0.0023	-0.035	14.388	0	0	<out of range>
24.80	6.95	-0.0182	-0.262	14.482	0	0	<out of range>
24.87	7.23	-0.0281	-0.388	14.560	0	0	<out of range>
24.93	10.28	-0.0372	-0.362	10.018	0	0	<out of range>
25.00	9.67	-0.0438	-0.453	10.176	0	0	<out of range>
25.07	9.04	-0.0510	-0.564	10.409	0	0	<out of range>
25.13	8.46	-0.0541	-0.639	10.670	0	0	<out of range>
25.20	8.11	-0.0533	-0.657	10.990	0	0	<out of range>
25.26	7.96	-0.0568	-0.714	11.317	0	0	<out of range>
25.33	7.90	-0.0587	-0.743	11.565	0	0	<out of range>
25.39	8.01	-0.0589	-0.735	11.758	0	0	<out of range>
25.46	8.11	-0.0643	-0.793	11.855	0	0	<out of range>
25.52	8.03	-0.0640	-0.798	11.974	0	0	<out of range>
25.59	8.08	-0.0605	-0.749	12.069	0	0	<out of range>
25.66	8.25	-0.0537	-0.651	12.151	0	0	<out of range>
25.72	8.61	-0.0522	-0.607	12.238	0	0	<out of range>
25.79	8.94	-0.0467	-0.523	12.301	0	0	<out of range>
25.85	9.26	-0.0423	-0.457	12.442	0	0	<out of range>
25.92	9.80	-0.0394	-0.402	12.597	0	0	<out of range>
25.98	10.46	-0.0419	-0.401	12.662	0	0	<out of range>
26.05	11.00	-0.0369	-0.335	12.708	0	0	<out of range>
26.12	11.09	-0.0395	-0.356	12.769	0	0	<out of range>
26.18	10.87	-0.0386	-0.355	12.844	0	0	<out of range>
26.25	10.75	-0.0419	-0.389	12.861	0	0	<out of range>
26.31	10.58	-0.0319	-0.302	12.902	0	0	<out of range>
26.38	10.55	-0.0171	-0.162	12.968	0	0	<out of range>
26.44	10.82	0.0090	0.083	13.099	4	6	sandy silt to clayey silt
26.51	11.56	0.0285	0.247	13.305	5	6	sandy silt to clayey silt
26.57	12.86	0.0445	0.346	13.452	5	6	sandy silt to clayey silt
26.64	14.65	0.0471	0.321	13.566	5	6	sandy silt to clayey silt
26.71	15.91	0.0452	0.284	13.615	6	6	sandy silt to clayey silt
26.77	16.30	0.0479	0.294	13.644	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	16.40	0.0302	0.184	13.741	6	6	sandy silt to clayey silt
26.90	16.55	0.0658	0.398	14.994	6	6	sandy silt to clayey silt
26.97	16.35	0.1669	1.021	15.260	6	6	sandy silt to clayey silt
27.03	15.78	0.1539	0.975	15.302	6	6	sandy silt to clayey silt
27.10	15.51	0.1109	0.715	15.289	7	6	sandy silt to clayey silt
27.17	15.79	0.2719	1.722	15.297	7	6	sandy silt to clayey silt
27.23	18.02	0.3362	1.866	15.333	7	6	sandy silt to clayey silt
27.30	23.15	0.2834	1.224	14.701	7	6	sandy silt to clayey silt
27.36	23.89	0.2976	1.246	12.132	7	6	sandy silt to clayey silt
27.43	21.72	0.2925	1.347	10.981	6	6	sandy silt to clayey silt
27.49	12.51	0.2329	1.862	10.842	6	6	sandy silt to clayey silt
27.56	9.71	0.1392	1.433	10.792	5	6	sandy silt to clayey silt
27.62	9.79	0.0480	0.490	10.842	4	6	sandy silt to clayey silt
27.69	8.45	-0.0280	-0.331	10.869	4	1	sensitive fine grained
27.76	7.68	-0.0243	-0.316	10.903	4	1	sensitive fine grained
27.82	7.22	-0.0303	-0.420	10.966	0	0	<out of range>
27.89	7.20	-0.0408	-0.566	11.061	0	0	<out of range>
27.95	6.90	-0.0429	-0.622	11.160	0	0	<out of range>
28.02	6.51	-0.0482	-0.739	11.271	0	0	<out of range>
28.08	6.39	-0.0534	-0.836	11.334	0	0	<out of range>
28.15	6.36	-0.0571	-0.898	11.460	0	0	<out of range>
28.22	6.47	-0.0533	-0.824	11.594	0	0	<out of range>
28.28	6.76	-0.0583	-0.862	11.683	0	0	<out of range>
28.35	6.60	-0.0531	-0.804	11.788	0	0	<out of range>
28.41	6.54	-0.0420	-0.642	11.889	0	0	<out of range>
28.48	6.73	-0.0388	-0.577	12.209	0	0	<out of range>
28.54	7.02	-0.0431	-0.614	12.483	0	0	<out of range>
28.61	7.10	-0.0493	-0.695	12.723	0	0	<out of range>
28.67	6.89	-0.0571	-0.828	12.960	0	0	<out of range>
28.74	8.66	-0.0574	-0.663	15.100	0	0	<out of range>
28.81	7.87	-0.0583	-0.741	14.972	0	0	<out of range>
28.87	6.92	-0.0583	-0.842	14.936	0	0	<out of range>
28.94	6.52	-0.0560	-0.858	14.943	0	0	<out of range>
29.00	6.25	-0.0576	-0.921	15.028	0	0	<out of range>
29.07	6.37	-0.0561	-0.881	15.117	0	0	<out of range>
29.13	6.67	-0.0588	-0.882	15.163	0	0	<out of range>
29.20	6.78	-0.0674	-0.994	15.217	0	0	<out of range>
29.27	6.76	-0.0668	-0.988	15.270	0	0	<out of range>
29.33	6.71	-0.0678	-1.010	15.294	0	0	<out of range>
29.40	6.43	-0.0610	-0.949	15.432	0	0	<out of range>
29.46	6.09	-0.0560	-0.918	15.612	0	0	<out of range>
29.53	5.92	-0.0570	-0.963	15.835	0	0	<out of range>
29.59	5.94	-0.0573	-0.965	16.053	0	0	<out of range>
29.66	5.99	-0.0550	-0.919	16.310	0	0	<out of range>
29.72	6.53	-0.0484	-0.740	16.637	0	0	<out of range>
29.79	6.32	-0.0576	-0.911	16.833	0	0	<out of range>
29.86	6.40	-0.0635	-0.992	16.945	0	0	<out of range>
29.92	7.27	-0.0660	-0.909	17.201	0	0	<out of range>
29.99	7.91	-0.0647	-0.818	17.364	0	0	<out of range>
30.05	7.77	-0.0676	-0.869	17.388	0	0	<out of range>
30.12	7.13	-0.0718	-1.008	17.388	0	0	<out of range>
30.18	6.62	-0.0702	-1.061	17.393	0	0	<out of range>
30.25	6.37	-0.0711	-1.116	17.456	0	0	<out of range>
30.31	6.32	-0.0740	-1.171	17.541	0	0	<out of range>
30.38	6.27	-0.0706	-1.125	17.706	0	0	<out of range>
30.45	6.37	-0.0755	-1.185	17.933	0	0	<out of range>
30.51	6.51	-0.0717	-1.102	18.076	0	0	<out of range>
30.58	6.72	-0.0714	-1.062	18.294	0	0	<out of range>
30.64	7.27	-0.0714	-0.982	18.530	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	7.70	0.0145	0.189	18.932	4	1	sensitive fine grained
30.77	8.11	0.0049	0.060	19.186	4	1	sensitive fine grained
30.84	9.59	0.0815	0.850	19.407	4	6	sandy silt to clayey silt
30.91	11.22	0.1182	1.054	19.630	4	6	sandy silt to clayey silt
30.97	12.40	0.1401	1.130	20.141	5	5	clayey silt to silty clay
31.04	15.18	0.1486	0.979	12.505	5	5	clayey silt to silty clay
31.10	13.62	0.1577	1.158	12.546	5	5	clayey silt to silty clay
31.17	9.28	0.1949	2.100	13.023	5	5	clayey silt to silty clay
31.23	8.73	0.2194	2.514	13.734	5	5	clayey silt to silty clay
31.30	8.14	0.1791	2.201	14.950	4	5	clayey silt to silty clay
31.36	8.28	0.1738	2.098	15.997	5	4	silty clay to clay
31.43	8.57	0.1705	1.989	16.886	5	4	silty clay to clay
31.50	8.20	0.1818	2.217	17.250	5	4	silty clay to clay
31.56	8.33	0.1789	2.147	17.374	5	4	silty clay to clay
31.63	8.11	0.1810	2.233	17.541	5	4	silty clay to clay
31.69	7.99	0.1747	2.187	17.744	5	4	silty clay to clay
31.76	8.22	0.2072	2.522	17.919	5	4	silty clay to clay
31.82	7.59	0.1749	2.303	17.994	5	4	silty clay to clay
31.89	7.32	0.1615	2.208	18.047	4	5	clayey silt to silty clay
31.96	8.06	0.1638	2.033	19.458	5	5	clayey silt to silty clay
32.02	12.08	0.1620	1.341	19.618	5	5	clayey silt to silty clay
32.09	13.53	0.1721	1.272	19.828	5	5	clayey silt to silty clay
32.15	12.84	0.1860	1.449	20.463	6	5	clayey silt to silty clay
32.22	12.96	0.1979	1.527	20.997	6	5	clayey silt to silty clay
32.28	12.96	0.2033	1.569	21.462	6	5	clayey silt to silty clay
32.35	13.14	0.2010	1.530	21.845	6	5	clayey silt to silty clay
32.41	12.83	0.2019	1.574	21.995	6	5	clayey silt to silty clay
32.48	12.64	0.1973	1.561	22.225	6	5	clayey silt to silty clay
32.55	12.43	0.2055	1.653	22.480	6	5	clayey silt to silty clay
32.61	12.77	0.2307	1.807	23.027	6	5	clayey silt to silty clay
32.68	13.13	0.2408	1.834	23.439	7	5	clayey silt to silty clay
32.74	14.13	0.2386	1.688	23.771	7	5	clayey silt to silty clay
32.81	15.37	0.2521	1.640	24.028	7	5	clayey silt to silty clay
32.87	15.29	0.2276	1.489	23.926	7	5	clayey silt to silty clay
32.94	14.79	0.2143	1.449	23.764	6	6	sandy silt to clayey silt
33.01	14.17	0.1787	1.261	23.631	6	6	sandy silt to clayey silt
33.07	14.17	0.1637	1.155	23.636	6	6	sandy silt to clayey silt
33.14	13.95	0.1745	1.251	23.674	6	6	sandy silt to clayey silt
33.20	14.04	0.1955	1.392	23.762	6	6	sandy silt to clayey silt
33.27	14.41	0.2033	1.410	23.820	6	6	sandy silt to clayey silt
33.33	15.63	0.2135	1.366	24.031	6	6	sandy silt to clayey silt
33.40	16.96	0.2002	1.180	24.108	6	6	sandy silt to clayey silt
33.46	17.28	0.1726	0.999	24.053	6	6	sandy silt to clayey silt
33.53	17.14	0.1628	0.950	23.834	6	6	sandy silt to clayey silt
33.60	16.86	0.1772	1.051	23.682	6	6	sandy silt to clayey silt
33.66	16.22	0.1505	0.928	23.471	6	6	sandy silt to clayey silt
33.73	15.58	0.1345	0.863	23.309	6	6	sandy silt to clayey silt
33.79	15.95	0.1253	0.786	23.439	6	6	sandy silt to clayey silt
33.86	16.12	0.1289	0.800	23.548	6	6	sandy silt to clayey silt
33.92	15.69	0.0929	0.592	23.260	6	6	sandy silt to clayey silt
33.99	15.53	0.0689	0.443	23.243	6	6	sandy silt to clayey silt
34.06	15.38	0.0748	0.486	23.250	6	6	sandy silt to clayey silt
34.12	14.52	0.0819	0.564	23.173	6	6	sandy silt to clayey silt
34.19	13.60	0.1052	0.773	23.001	5	6	sandy silt to clayey silt
34.25	12.82	0.0861	0.671	23.049	5	6	sandy silt to clayey silt
34.32	13.44	0.0502	0.374	23.425	5	6	sandy silt to clayey silt
34.38	14.49	0.0389	0.268	23.687	5	6	sandy silt to clayey silt
34.45	15.60	0.0349	0.223	23.720	5	6	sandy silt to clayey silt
34.51	14.54	0.0242	0.167	23.442	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	13.17	0.0106	0.080	23.313	5	6	sandy silt to clayey silt
34.65	11.96	0.0050	0.042	23.515	5	6	sandy silt to clayey silt
34.71	11.29	-0.0072	-0.064	23.900	4	6	sandy silt to clayey silt
34.78	10.35	-0.0061	-0.059	24.268	4	6	sandy silt to clayey silt
34.84	9.52	0.0714	0.750	24.503	4	6	sandy silt to clayey silt
34.91	8.73	0.0714	0.818	24.857	4	6	sandy silt to clayey silt
34.97	8.32	0.0700	0.842	25.124	4	6	sandy silt to clayey silt
35.04	8.27	0.0600	0.726	25.671	3	6	sandy silt to clayey silt
35.10	8.53	0.0362	0.424	26.142	4	1	sensitive fine grained
35.17	10.81	0.0193	0.179	20.686	4	1	sensitive fine grained
35.24	9.36	0.0192	0.205	20.633	4	1	sensitive fine grained
35.30	8.68	0.0199	0.229	20.660	4	1	sensitive fine grained
35.37	8.54	0.0033	0.038	20.951	4	1	sensitive fine grained
35.43	8.67	-0.0072	-0.083	21.811	0	0	<out of range>
35.50	8.77	-0.0040	-0.046	22.591	0	0	<out of range>
35.56	8.72	-0.0108	-0.124	23.209	0	0	<out of range>
35.63	8.65	-0.0204	-0.236	23.677	0	0	<out of range>
35.70	8.34	-0.0221	-0.265	24.028	0	0	<out of range>
35.76	8.13	-0.0210	-0.258	24.457	0	0	<out of range>
35.83	7.76	-0.0181	-0.233	24.767	0	0	<out of range>
35.89	7.71	-0.0174	-0.225	25.390	0	0	<out of range>
35.96	7.80	-0.0078	-0.100	26.420	0	0	<out of range>
36.02	8.13	0.0003	0.004	27.140	4	1	sensitive fine grained
36.09	8.18	0.0117	0.143	27.833	4	1	sensitive fine grained
36.15	8.55	0.0178	0.208	28.558	4	1	sensitive fine grained
36.22	8.84	0.0283	0.320	29.178	4	1	sensitive fine grained
36.29	8.96	0.0306	0.342	29.692	4	1	sensitive fine grained
36.35	8.75	0.0328	0.375	30.014	4	1	sensitive fine grained
36.42	8.56	0.0282	0.330	30.436	4	1	sensitive fine grained
36.48	8.27	0.0209	0.252	30.778	4	1	sensitive fine grained
36.55	8.16	0.0149	0.182	31.277	4	1	sensitive fine grained
36.61	8.02	0.0155	0.193	31.824	4	1	sensitive fine grained
36.68	7.89	0.0236	0.299	32.202	4	1	sensitive fine grained
36.75	8.05	0.0245	0.304	32.636	4	1	sensitive fine grained
36.81	8.14	0.0193	0.237	33.218	4	1	sensitive fine grained
36.88	8.36	0.0110	0.132	33.671	4	1	sensitive fine grained
36.94	8.14	0.0257	0.315	33.763	4	1	sensitive fine grained
37.01	8.27	0.0380	0.460	33.959	4	1	sensitive fine grained
37.07	8.86	0.0351	0.396	34.306	4	1	sensitive fine grained
37.14	9.07	0.0255	0.281	34.674	4	1	sensitive fine grained
37.20	9.27	0.0314	0.339	34.912	4	1	sensitive fine grained
37.27	8.91	0.0210	0.236	34.958	4	1	sensitive fine grained
37.34	8.32	0.0175	0.211	35.169	4	1	sensitive fine grained
37.40	7.96	0.0057	0.072	35.477	4	1	sensitive fine grained
37.47	8.03	-0.0086	-0.107	35.925	4	1	sensitive fine grained
37.53	8.00	-0.0149	-0.187	36.337	4	1	sensitive fine grained
37.60	8.12	0.0258	0.318	37.091	4	1	sensitive fine grained
37.66	8.77	0.0642	0.733	37.672	4	5	clayey silt to silty clay
37.73	9.08	0.1262	1.390	38.186	5	5	clayey silt to silty clay
37.80	9.36	0.2114	2.259	38.772	6	5	clayey silt to silty clay
37.86	10.94	0.2452	2.241	39.221	7	6	sandy silt to clayey silt
37.93	12.69	0.3404	2.682	40.096	9	6	sandy silt to clayey silt
37.99	25.39	0.5240	2.064	41.482	12	6	sandy silt to clayey silt
38.06	48.92	0.7220	1.476	42.296	14	6	sandy silt to clayey silt
38.12	53.97	0.7584	1.405	19.281	12	7	silty sand to sandy silt
38.19	51.53	0.5734	1.113	9.672	13	7	silty sand to sandy silt
38.25	43.78	0.4362	0.996	8.673	12	7	silty sand to sandy silt
38.32	34.18	0.3836	1.122	8.560	11	7	silty sand to sandy silt
38.39	23.10	0.3113	1.348	10.370	11	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
38.45	18.34	0.3096	1.688	10.382	9	6	sandy silt to clayey silt
38.52	14.88	0.3122	2.098	11.056	9	5	clayey silt to silty clay
38.58	14.22	0.3048	2.144	11.599	8	5	clayey silt to silty clay
38.65	14.68	0.5390	3.671	12.110	8	5	clayey silt to silty clay
38.71	17.10	0.6191	3.620	12.730	10	5	clayey silt to silty clay
38.78	19.58	0.6655	3.399	13.171	13	6	sandy silt to clayey silt
38.85	21.95	0.7285	3.319	13.515	18	7	silty sand to sandy silt
38.91	43.15	0.8375	1.941	14.184	19	8	sand to silty sand
38.98	108.01	0.8790	0.814	15.697	26	8	sand to silty sand
39.04	160.68	1.1903	0.741	13.639	27	9	sand
39.11	198.74	1.2657	0.637	13.200	32	9	sand
39.17	219.15	1.5331	0.700	11.550	38	9	sand
39.24	226.38	1.7468	0.772	11.305	41	9	sand
39.30	230.34	2.0867	0.906	11.097	43	9	sand
39.37	229.98	1.9116	0.831	10.978	45	9	sand
39.44	237.57	1.8462	0.777	10.682	46	9	sand
39.50	242.00	1.8158	0.750	10.656	46	9	sand
39.57	260.36	1.6302	0.626	10.435	47	9	sand
39.63	248.34	1.6886	0.680	10.498	47	9	sand
39.70	247.84	1.5287	0.617	11.179	47	9	sand
39.76	247.81	1.3330	0.538	10.508	46	9	sand
39.83	240.29	1.5458	0.643	10.435	45	9	sand
39.90	233.41	1.5390	0.659	10.278	44	9	sand
39.96	218.24	1.6274	0.746	10.161	44	9	sand
40.03	216.84	1.4841	0.684	10.501	43	9	sand
40.09	217.73	1.5504	0.712	10.426	42	9	sand
40.16	220.45	1.9404	0.880	10.445	41	9	sand
40.22	222.44	3.2422	1.458	10.486	40	9	sand
40.29	207.55	3.6764	1.771	10.845	47	8	sand to silty sand
40.35	196.49	3.4330	1.747	10.738	44	8	sand to silty sand
40.42	170.38	3.0469	1.788	10.665	41	8	sand to silty sand
40.49	147.19	3.1517	2.141	10.859	51	7	silty sand to sandy silt
40.55	121.04	2.9880	2.469	11.436	49	7	silty sand to sandy silt
40.62	135.34	2.8593	2.113	12.027	47	7	silty sand to sandy silt
40.68	146.69	2.4630	1.679	12.187	45	7	silty sand to sandy silt
40.75	153.64	2.2504	1.465	12.020	44	7	silty sand to sandy silt
40.81	152.00	2.2068	1.452	11.863	33	8	sand to silty sand
40.88	138.86	2.3544	1.695	11.725	33	8	sand to silty sand
40.94	124.60	2.1762	1.747	11.533	32	8	sand to silty sand
41.01	118.18	1.8280	1.547	11.548	33	8	sand to silty sand
41.08	124.47	2.4316	1.954	11.652	37	8	sand to silty sand
41.14	134.68	1.7581	1.305	11.766	43	8	sand to silty sand
41.21	186.37	1.7581	0.943	11.998	38	9	sand
41.27	260.91	2.2809	0.874	11.756	41	9	sand
41.34	294.99	2.2549	0.764	11.048	43	9	sand
41.40	282.53	2.2658	0.802	11.293	45	9	sand
41.47	221.51	2.1822	0.985	12.990	44	9	sand
41.54	206.70	2.3223	1.124	12.420	40	9	sand
41.60	179.72	2.3933	1.332	11.943	44	8	sand to silty sand
41.67	155.88	2.6223	1.682	11.967	0	0	<out of range>
41.73	132.94	2.8249	2.125	12.023	0	0	<out of range>
41.80	115.53	3.5944	3.111	12.076	37	6	sandy silt to clayey silt
41.86	113.52	-32768	-32768	12.086	0	0	<out of range>
41.93	98.45	-32768	-32768	12.071	0	0	<out of range>
41.99	82.33	-32768	-32768	12.006	0	0	<out of range>
42.06	76.37	-32768	-32768	12.040	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee)

Project No: 60095742

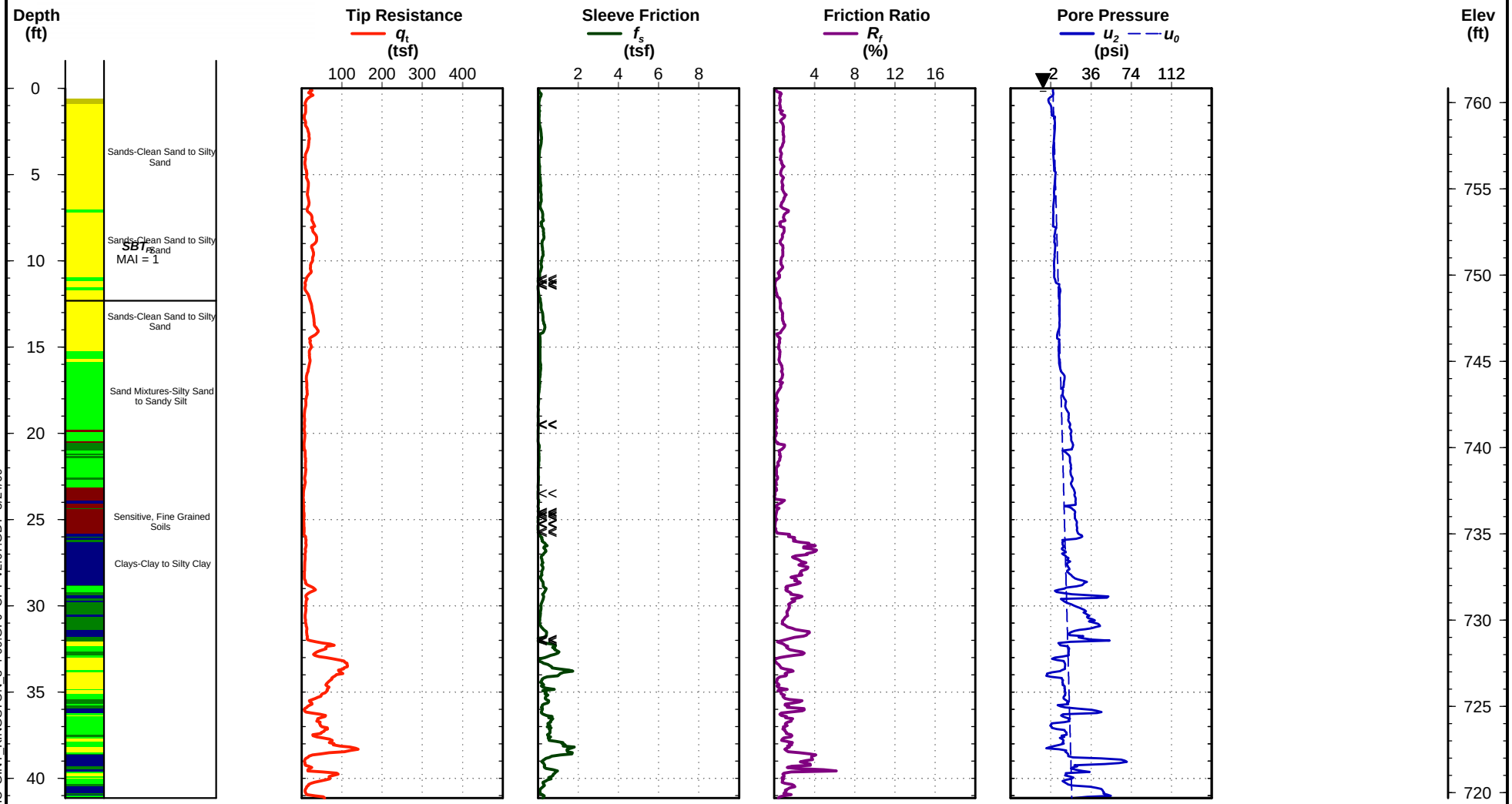
Cone Penetration Test

09-201-C1

Date: Feb. 6, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850/CAP

Northing: 558004.43
Easting: 2440257.23
Elevation: 760.83 NGVD

Total Depth: 41.1 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



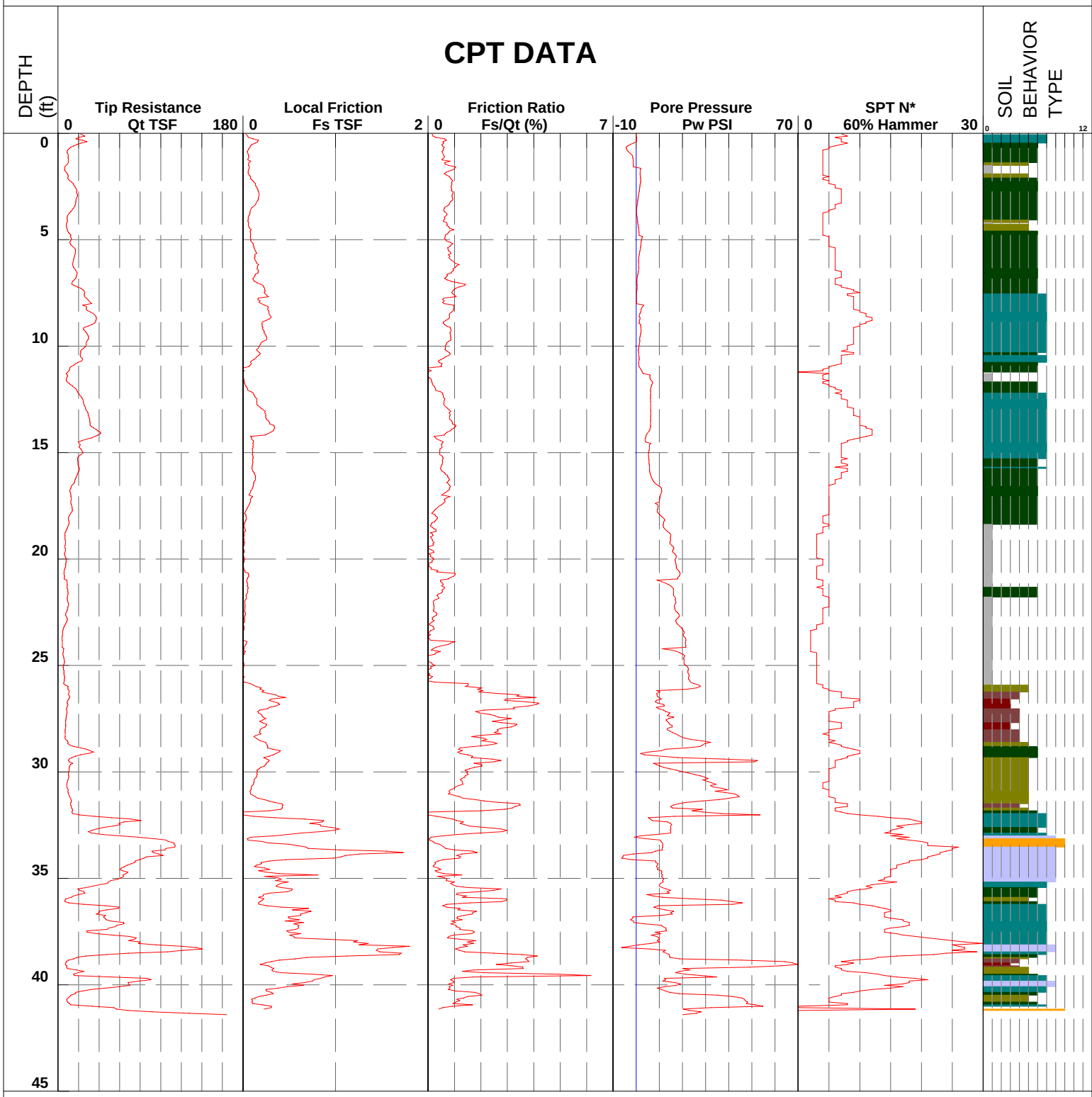
CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

09-201-C1

Electronic Filename: 09-201-C1.cpt

AECOM

09-201-C1	60095742	2/6/2009 12:03:56 PM
DTA1081	TVA-Kingston	CME-850/CAP



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-201-C1 2/6/2009 12:03:56 PM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	21.73	0.0330	0.152	-0.016	7	7	silty sand to sandy silt
0.13	26.09	0.0498	0.191	0.006	8	7	silty sand to sandy silt
0.20	19.97	0.0585	0.293	0.119	6	7	silty sand to sandy silt
0.26	17.37	0.1082	0.623	0.150	7	7	silty sand to sandy silt
0.33	23.79	0.1660	0.698	0.156	7	7	silty sand to sandy silt
0.39	28.17	0.1584	0.562	0.091	7	7	silty sand to sandy silt
0.46	22.51	0.1344	0.597	-1.114	8	6	sandy silt to clayey silt
0.52	18.76	0.0984	0.524	-2.584	7	6	sandy silt to clayey silt
0.59	15.34	0.0828	0.540	-3.673	6	6	sandy silt to clayey silt
0.66	12.34	0.0755	0.612	-4.378	5	6	sandy silt to clayey silt
0.72	10.88	0.0628	0.578	-4.197	5	6	sandy silt to clayey silt
0.79	9.64	0.0562	0.583	-3.970	4	6	sandy silt to clayey silt
0.85	8.92	0.0472	0.530	-3.533	4	6	sandy silt to clayey silt
0.92	8.99	0.0488	0.543	-2.846	4	6	sandy silt to clayey silt
0.98	9.62	0.0557	0.579	-2.144	4	6	sandy silt to clayey silt
1.05	10.10	0.0600	0.594	-1.617	4	6	sandy silt to clayey silt
1.12	9.88	0.0621	0.629	-1.510	4	6	sandy silt to clayey silt
1.18	9.89	0.0561	0.567	-1.432	4	6	sandy silt to clayey silt
1.25	10.05	0.0524	0.521	-1.298	4	6	sandy silt to clayey silt
1.31	10.15	0.0847	0.835	-1.258	4	6	sandy silt to clayey silt
1.38	10.03	0.0639	0.638	-1.292	4	5	clayey silt to silty clay
1.44	9.40	0.0603	0.641	-1.261	4	5	clayey silt to silty clay
1.51	7.92	0.0616	0.778	-1.236	4	1	sensitive fine grained
1.57	6.49	0.0678	1.044	-1.195	4	1	sensitive fine grained
1.64	6.67	0.0673	1.009	1.957	4	1	sensitive fine grained
1.71	6.27	0.0603	0.962	1.813	4	1	sensitive fine grained
1.77	7.04	0.0560	0.796	1.726	4	1	sensitive fine grained
1.84	8.18	0.0550	0.673	1.720	4	1	sensitive fine grained
1.90	9.16	0.0560	0.611	1.698	4	5	clayey silt to silty clay
1.97	9.82	0.0690	0.703	1.716	4	5	clayey silt to silty clay
2.03	9.90	0.0795	0.803	1.785	5	5	clayey silt to silty clay
2.10	9.52	0.0808	0.848	1.835	4	6	sandy silt to clayey silt
2.17	10.12	0.0894	0.884	1.897	4	6	sandy silt to clayey silt
2.23	11.51	0.1075	0.933	1.972	5	6	sandy silt to clayey silt
2.30	13.45	0.1194	0.887	1.913	5	6	sandy silt to clayey silt
2.36	14.76	0.1336	0.905	1.782	5	6	sandy silt to clayey silt
2.43	15.35	0.1369	0.892	1.654	6	6	sandy silt to clayey silt
2.49	16.26	0.1406	0.865	1.598	6	6	sandy silt to clayey silt
2.56	17.20	0.1517	0.882	1.507	6	6	sandy silt to clayey silt
2.62	17.83	0.1602	0.898	1.451	7	6	sandy silt to clayey silt
2.69	18.46	0.1625	0.880	1.382	7	6	sandy silt to clayey silt
2.76	17.88	0.1696	0.949	1.264	7	6	sandy silt to clayey silt
2.82	18.28	0.1724	0.943	1.158	7	6	sandy silt to clayey silt
2.89	18.92	0.1726	0.912	1.061	7	6	sandy silt to clayey silt
2.95	19.01	0.1728	0.909	0.952	7	6	sandy silt to clayey silt
3.02	18.18	0.1673	0.920	0.843	7	6	sandy silt to clayey silt
3.08	17.70	0.1669	0.943	0.740	7	6	sandy silt to clayey silt
3.15	17.59	0.1601	0.910	0.665	7	6	sandy silt to clayey silt
3.22	17.49	0.1497	0.856	0.605	7	6	sandy silt to clayey silt
3.28	17.19	0.1404	0.817	0.512	7	6	sandy silt to clayey silt
3.35	16.96	0.1357	0.801	0.456	6	6	sandy silt to clayey silt
3.41	16.52	0.1196	0.724	0.346	6	6	sandy silt to clayey silt
3.48	15.64	0.0992	0.634	0.256	6	6	sandy silt to clayey silt
3.54	14.67	0.0898	0.612	0.228	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	13.67	0.0816	0.597	0.187	5	6	sandy silt to clayey silt
3.67	12.56	0.0766	0.610	0.172	5	6	sandy silt to clayey silt
3.74	11.21	0.0770	0.687	0.169	4	6	sandy silt to clayey silt
3.81	10.08	0.0724	0.718	0.209	4	6	sandy silt to clayey silt
3.87	9.41	0.0644	0.685	0.284	4	6	sandy silt to clayey silt
3.94	9.05	0.0557	0.615	0.359	4	6	sandy silt to clayey silt
4.00	8.78	0.0559	0.637	0.496	4	6	sandy silt to clayey silt
4.07	9.23	0.0556	0.602	0.571	4	5	clayey silt to silty clay
4.13	9.20	0.0529	0.576	0.634	4	5	clayey silt to silty clay
4.20	8.51	0.0600	0.704	0.652	4	1	sensitive fine grained
4.27	8.21	0.0594	0.724	0.736	4	5	clayey silt to silty clay
4.33	8.20	0.0584	0.712	0.827	4	5	clayey silt to silty clay
4.40	8.28	0.0658	0.795	0.949	4	5	clayey silt to silty clay
4.46	8.71	0.0701	0.806	1.058	4	5	clayey silt to silty clay
4.53	9.21	0.0899	0.976	1.158	4	5	clayey silt to silty clay
4.59	9.51	0.0779	0.819	1.205	4	6	sandy silt to clayey silt
4.66	10.18	0.0790	0.776	1.217	4	6	sandy silt to clayey silt
4.72	11.42	0.0834	0.730	1.242	4	6	sandy silt to clayey silt
4.79	12.68	0.0822	0.648	1.248	4	6	sandy silt to clayey silt
4.86	11.95	0.0790	0.661	2.668	5	6	sandy silt to clayey silt
4.92	13.08	0.0811	0.620	2.484	5	6	sandy silt to clayey silt
4.99	13.01	0.0855	0.658	2.341	5	6	sandy silt to clayey silt
5.05	12.25	0.0841	0.686	2.203	5	6	sandy silt to clayey silt
5.12	11.62	0.0970	0.834	2.106	5	6	sandy silt to clayey silt
5.18	11.82	0.1103	0.933	2.044	5	6	sandy silt to clayey silt
5.25	12.75	0.1100	0.863	1.991	5	6	sandy silt to clayey silt
5.31	14.21	0.1184	0.833	1.938	5	6	sandy silt to clayey silt
5.38	15.82	0.1173	0.741	1.841	6	6	sandy silt to clayey silt
5.45	16.81	0.1271	0.756	1.741	6	6	sandy silt to clayey silt
5.51	17.18	0.1326	0.772	1.595	6	6	sandy silt to clayey silt
5.58	16.84	0.1407	0.836	1.523	6	6	sandy silt to clayey silt
5.64	16.89	0.1470	0.870	1.373	6	6	sandy silt to clayey silt
5.71	16.42	0.1258	0.766	1.304	6	6	sandy silt to clayey silt
5.77	16.00	0.1323	0.827	1.198	6	6	sandy silt to clayey silt
5.84	15.72	0.1229	0.782	1.127	6	6	sandy silt to clayey silt
5.91	15.38	0.1288	0.838	1.052	6	6	sandy silt to clayey silt
5.97	14.91	0.1329	0.891	1.017	6	6	sandy silt to clayey silt
6.04	14.85	0.1449	0.976	1.045	6	6	sandy silt to clayey silt
6.10	14.37	0.1468	1.022	1.055	6	6	sandy silt to clayey silt
6.17	14.34	0.1690	1.179	1.067	6	6	sandy silt to clayey silt
6.23	14.65	0.1566	1.069	1.055	6	6	sandy silt to clayey silt
6.30	15.16	0.1577	1.041	1.064	6	6	sandy silt to clayey silt
6.36	16.16	0.1516	0.938	1.089	6	6	sandy silt to clayey silt
6.43	17.20	0.1680	0.977	1.045	6	6	sandy silt to clayey silt
6.50	18.04	0.1629	0.903	0.949	7	6	sandy silt to clayey silt
6.56	18.72	0.1636	0.874	0.874	7	6	sandy silt to clayey silt
6.63	18.49	0.1323	0.716	0.718	7	6	sandy silt to clayey silt
6.69	17.92	0.1306	0.729	0.574	7	6	sandy silt to clayey silt
6.76	17.86	0.1204	0.674	0.462	7	6	sandy silt to clayey silt
6.82	17.10	0.1073	0.628	0.384	6	6	sandy silt to clayey silt
6.89	15.68	0.1135	0.724	0.325	6	6	sandy silt to clayey silt
6.96	14.25	0.1260	0.884	0.331	6	6	sandy silt to clayey silt
7.02	13.55	0.1526	1.126	0.281	6	6	sandy silt to clayey silt
7.09	13.61	0.1931	1.419	0.312	6	6	sandy silt to clayey silt
7.15	15.65	0.2153	1.376	0.381	7	6	sandy silt to clayey silt
7.22	18.95	0.2238	1.181	0.403	7	6	sandy silt to clayey silt
7.28	22.34	0.2338	1.047	0.362	8	6	sandy silt to clayey silt
7.35	24.23	0.2354	0.972	0.318	9	6	sandy silt to clayey silt
7.41	25.47	0.2392	0.939	0.243	9	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	25.82	0.2297	0.890	0.175	10	6	sandy silt to clayey silt
7.55	25.65	0.2406	0.938	0.156	8	7	silty sand to sandy silt
7.61	25.51	0.2571	1.008	0.175	8	7	silty sand to sandy silt
7.68	25.93	0.2759	1.064	0.165	9	7	silty sand to sandy silt
7.74	27.54	0.1645	0.597	0.144	9	7	silty sand to sandy silt
7.81	28.96	0.1578	0.545	0.165	9	7	silty sand to sandy silt
7.87	30.18	0.1848	0.612	0.137	9	7	silty sand to sandy silt
7.94	31.51	0.1735	0.551	0.106	9	7	silty sand to sandy silt
8.01	32.82	0.1978	0.603	-0.031	9	7	silty sand to sandy silt
8.07	23.77	0.2304	0.969	3.305	9	7	silty sand to sandy silt
8.14	27.62	0.2716	0.983	2.756	9	7	silty sand to sandy silt
8.20	27.71	0.2702	0.975	2.397	9	7	silty sand to sandy silt
8.27	27.59	0.2646	0.959	2.163	9	7	silty sand to sandy silt
8.33	28.76	0.2765	0.961	2.075	10	7	silty sand to sandy silt
8.40	31.51	0.2807	0.891	1.932	10	7	silty sand to sandy silt
8.46	34.33	0.2798	0.815	1.626	11	7	silty sand to sandy silt
8.53	35.76	0.2876	0.804	1.423	11	7	silty sand to sandy silt
8.60	36.90	0.3008	0.815	1.242	11	7	silty sand to sandy silt
8.66	37.38	0.3041	0.814	1.685	12	7	silty sand to sandy silt
8.73	37.29	0.2836	0.761	1.598	12	7	silty sand to sandy silt
8.79	36.77	0.2449	0.666	1.373	12	7	silty sand to sandy silt
8.86	36.58	0.2129	0.582	1.389	11	7	silty sand to sandy silt
8.92	35.18	0.2043	0.581	1.205	11	7	silty sand to sandy silt
8.99	33.01	0.2075	0.629	1.969	10	7	silty sand to sandy silt
9.06	29.50	0.2072	0.702	1.963	10	7	silty sand to sandy silt
9.12	25.50	0.2149	0.843	2.013	9	7	silty sand to sandy silt
9.19	24.71	0.2109	0.853	2.060	9	7	silty sand to sandy silt
9.25	25.35	0.2217	0.875	2.141	9	7	silty sand to sandy silt
9.32	26.87	0.2303	0.857	2.094	9	7	silty sand to sandy silt
9.38	27.90	0.2290	0.821	1.969	9	7	silty sand to sandy silt
9.45	28.50	0.2437	0.855	1.854	9	7	silty sand to sandy silt
9.51	29.47	0.2495	0.847	1.704	9	7	silty sand to sandy silt
9.58	29.77	0.2551	0.857	1.601	9	7	silty sand to sandy silt
9.65	29.81	0.2570	0.862	1.489	9	7	silty sand to sandy silt
9.71	29.03	0.2499	0.861	1.573	9	7	silty sand to sandy silt
9.78	27.96	0.2162	0.773	1.542	9	7	silty sand to sandy silt
9.84	27.30	0.1952	0.715	1.429	9	7	silty sand to sandy silt
9.91	27.28	0.1896	0.695	1.333	9	7	silty sand to sandy silt
9.97	27.35	0.1785	0.653	1.205	8	7	silty sand to sandy silt
10.04	26.26	0.1716	0.653	1.111	8	7	silty sand to sandy silt
10.10	24.85	0.1656	0.666	1.049	8	7	silty sand to sandy silt
10.17	22.85	0.1458	0.638	0.964	8	7	silty sand to sandy silt
10.24	22.08	0.1594	0.722	0.955	7	7	silty sand to sandy silt
10.30	22.11	0.1772	0.801	1.058	9	6	sandy silt to clayey silt
10.37	22.00	0.1882	0.855	1.074	9	6	sandy silt to clayey silt
10.43	21.57	0.1704	0.790	1.052	7	7	silty sand to sandy silt
10.50	21.95	0.1471	0.670	1.242	7	7	silty sand to sandy silt
10.56	23.41	0.1380	0.589	1.326	7	7	silty sand to sandy silt
10.63	24.09	0.1154	0.479	1.261	7	7	silty sand to sandy silt
10.70	22.83	0.0900	0.394	1.170	7	7	silty sand to sandy silt
10.76	19.43	0.0815	0.419	1.074	7	6	sandy silt to clayey silt
10.83	17.06	0.0914	0.536	1.098	7	6	sandy silt to clayey silt
10.89	15.43	0.0763	0.494	1.142	6	6	sandy silt to clayey silt
10.96	12.77	0.0659	0.516	1.242	5	6	sandy silt to clayey silt
11.02	11.43	-0.0100	-0.087	1.626	5	6	sandy silt to clayey silt
11.09	11.53	-0.0045	-0.039	2.016	4	6	sandy silt to clayey silt
11.15	10.76	0.0123	0.114	2.381	4	6	sandy silt to clayey silt
11.22	9.43	-0.0001	-0.001	2.668	0	0	<out of range>
11.29	7.95	-0.0012	-0.015	3.058	5	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	9.10	-0.0006	-0.006	5.951	4	1	sensitive fine grained
11.42	9.31	-0.0060	-0.065	5.920	4	1	sensitive fine grained
11.48	8.73	0.0040	0.046	5.917	4	1	sensitive fine grained
11.55	8.21	0.0093	0.113	6.067	4	1	sensitive fine grained
11.61	8.25	0.0104	0.126	6.575	5	1	sensitive fine grained
11.68	8.95	0.0136	0.151	7.072	4	6	sandy silt to clayey silt
11.75	10.66	0.0169	0.159	7.025	4	6	sandy silt to clayey silt
11.81	12.29	0.0217	0.176	6.775	5	6	sandy silt to clayey silt
11.88	14.29	0.0335	0.234	6.510	5	6	sandy silt to clayey silt
11.94	15.85	0.0405	0.255	6.338	6	6	sandy silt to clayey silt
12.01	17.48	0.0502	0.287	6.248	6	6	sandy silt to clayey silt
12.07	18.41	0.0511	0.277	6.179	7	6	sandy silt to clayey silt
12.14	18.95	0.0892	0.471	6.201	7	6	sandy silt to clayey silt
12.20	19.79	0.1098	0.555	6.213	6	7	silty sand to sandy silt
12.27	20.75	0.1163	0.561	6.223	7	7	silty sand to sandy silt
12.34	21.75	0.1258	0.578	6.188	7	7	silty sand to sandy silt
12.40	22.95	0.1325	0.578	6.173	7	7	silty sand to sandy silt
12.47	23.68	0.1505	0.636	6.142	7	7	silty sand to sandy silt
12.53	24.41	0.1499	0.614	6.185	8	7	silty sand to sandy silt
12.60	24.72	0.1488	0.602	6.195	8	7	silty sand to sandy silt
12.66	24.95	0.1513	0.606	6.223	8	7	silty sand to sandy silt
12.73	25.07	0.1481	0.591	6.229	8	7	silty sand to sandy silt
12.80	25.77	0.1614	0.627	6.210	8	7	silty sand to sandy silt
12.86	26.69	0.1818	0.681	6.195	8	7	silty sand to sandy silt
12.93	26.87	0.1987	0.740	6.198	9	7	silty sand to sandy silt
12.99	27.39	0.2180	0.796	6.216	9	7	silty sand to sandy silt
13.06	28.21	0.2423	0.859	6.235	9	7	silty sand to sandy silt
13.12	29.12	0.2334	0.801	6.251	9	7	silty sand to sandy silt
13.19	29.36	0.2446	0.833	6.276	9	7	silty sand to sandy silt
13.25	29.53	0.2459	0.833	6.273	9	7	silty sand to sandy silt
13.32	30.14	0.2453	0.814	6.232	10	7	silty sand to sandy silt
13.39	30.55	0.2495	0.817	6.195	10	7	silty sand to sandy silt
13.45	30.84	0.2554	0.828	6.229	10	7	silty sand to sandy silt
13.52	31.05	0.2775	0.894	6.192	10	7	silty sand to sandy silt
13.58	31.11	0.2854	0.918	6.160	10	7	silty sand to sandy silt
13.65	31.37	0.2880	0.918	6.176	10	7	silty sand to sandy silt
13.71	31.24	0.3307	1.059	6.176	10	7	silty sand to sandy silt
13.78	32.66	0.3388	1.037	6.210	11	7	silty sand to sandy silt
13.85	34.77	0.3426	0.985	6.092	11	7	silty sand to sandy silt
13.91	37.27	0.3317	0.890	5.914	12	7	silty sand to sandy silt
13.98	38.79	0.3255	0.839	5.620	12	7	silty sand to sandy silt
14.04	41.37	0.2997	0.725	5.202	12	7	silty sand to sandy silt
14.11	41.42	0.2715	0.655	4.747	12	7	silty sand to sandy silt
14.17	39.02	0.2412	0.618	4.369	12	7	silty sand to sandy silt
14.24	36.16	0.0828	0.229	4.151	11	7	silty sand to sandy silt
14.30	33.01	0.0931	0.282	3.988	10	7	silty sand to sandy silt
14.37	27.82	0.0946	0.340	3.885	9	7	silty sand to sandy silt
14.44	23.25	0.1088	0.468	3.867	8	7	silty sand to sandy silt
14.50	19.98	0.1144	0.573	4.076	8	7	silty sand to sandy silt
14.57	20.36	0.1075	0.528	6.301	7	7	silty sand to sandy silt
14.63	21.88	0.1122	0.513	5.786	7	7	silty sand to sandy silt
14.70	20.62	0.1074	0.521	5.677	7	7	silty sand to sandy silt
14.76	20.89	0.1106	0.530	5.730	7	7	silty sand to sandy silt
14.83	22.27	0.1002	0.450	5.727	7	7	silty sand to sandy silt
14.90	23.12	0.1036	0.448	5.574	7	7	silty sand to sandy silt
14.96	23.95	0.1059	0.442	5.492	7	7	silty sand to sandy silt
15.03	24.14	0.1063	0.440	5.311	7	7	silty sand to sandy silt
15.09	22.47	0.0985	0.438	5.277	7	7	silty sand to sandy silt
15.16	20.28	0.1078	0.532	5.299	7	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	19.40	0.1089	0.561	5.414	7	7	silty sand to sandy silt
15.29	18.99	0.1081	0.569	5.489	8	6	sandy silt to clayey silt
15.35	18.98	0.1027	0.541	5.536	7	6	sandy silt to clayey silt
15.42	19.45	0.1075	0.553	5.549	7	6	sandy silt to clayey silt
15.49	19.36	0.1053	0.544	5.552	7	6	sandy silt to clayey silt
15.55	19.50	0.1035	0.531	5.620	8	6	sandy silt to clayey silt
15.62	19.67	0.0995	0.506	5.689	8	6	sandy silt to clayey silt
15.68	20.29	0.0997	0.492	5.720	6	7	silty sand to sandy silt
15.75	20.90	0.0967	0.463	5.714	8	6	sandy silt to clayey silt
15.81	20.71	0.1030	0.497	5.755	8	6	sandy silt to clayey silt
15.88	20.24	0.1087	0.537	5.826	8	6	sandy silt to clayey silt
15.94	19.47	0.1217	0.625	5.932	7	6	sandy silt to clayey silt
16.01	18.84	0.1225	0.650	6.135	7	6	sandy silt to clayey silt
16.08	18.40	0.1364	0.741	6.344	7	6	sandy silt to clayey silt
16.14	17.82	0.1328	0.745	6.516	7	6	sandy silt to clayey silt
16.21	17.29	0.1352	0.782	6.750	7	6	sandy silt to clayey silt
16.27	16.65	0.1350	0.811	7.068	6	6	sandy silt to clayey silt
16.34	16.34	0.1259	0.770	7.434	6	6	sandy silt to clayey silt
16.40	16.13	0.1150	0.713	7.796	6	6	sandy silt to clayey silt
16.47	15.12	0.1164	0.770	8.435	6	6	sandy silt to clayey silt
16.54	13.67	0.1105	0.808	9.347	5	6	sandy silt to clayey silt
16.60	12.91	0.1098	0.850	10.245	5	6	sandy silt to clayey silt
16.67	12.56	0.1009	0.804	10.888	5	6	sandy silt to clayey silt
16.73	11.88	0.0967	0.814	10.932	5	6	sandy silt to clayey silt
16.80	11.27	0.0838	0.744	11.057	5	6	sandy silt to clayey silt
16.86	11.99	0.0806	0.673	10.994	5	6	sandy silt to clayey silt
16.93	12.32	0.0726	0.589	10.692	5	6	sandy silt to clayey silt
16.99	12.58	0.0647	0.514	10.442	5	6	sandy silt to clayey silt
17.06	12.60	0.1043	0.828	10.345	5	6	sandy silt to clayey silt
17.13	12.85	0.0919	0.715	10.305	5	6	sandy silt to clayey silt
17.19	12.89	0.0788	0.611	10.149	5	6	sandy silt to clayey silt
17.26	12.80	0.0820	0.640	10.014	5	6	sandy silt to clayey silt
17.32	12.34	0.0789	0.639	10.024	5	6	sandy silt to clayey silt
17.39	12.69	0.0722	0.569	8.154	5	6	sandy silt to clayey silt
17.45	13.17	0.0670	0.509	9.343	5	6	sandy silt to clayey silt
17.52	13.62	0.0566	0.415	9.487	5	6	sandy silt to clayey silt
17.59	13.74	0.0493	0.359	9.396	5	6	sandy silt to clayey silt
17.65	13.91	0.0401	0.288	9.278	5	6	sandy silt to clayey silt
17.72	14.14	0.0339	0.240	9.053	5	6	sandy silt to clayey silt
17.78	13.50	0.0272	0.201	9.091	5	6	sandy silt to clayey silt
17.85	12.21	0.0168	0.137	9.543	5	6	sandy silt to clayey silt
17.91	11.65	0.0304	0.261	10.155	5	6	sandy silt to clayey silt
17.98	10.90	0.0311	0.286	10.748	4	6	sandy silt to clayey silt
18.04	10.32	0.0370	0.358	11.434	4	6	sandy silt to clayey silt
18.11	10.05	0.0347	0.345	12.099	4	6	sandy silt to clayey silt
18.18	10.38	0.0304	0.293	12.349	4	6	sandy silt to clayey silt
18.24	10.78	0.0273	0.253	11.896	4	6	sandy silt to clayey silt
18.31	10.62	0.0149	0.140	11.812	4	6	sandy silt to clayey silt
18.37	10.56	0.0134	0.127	11.696	5	1	sensitive fine grained
18.44	9.95	0.0083	0.084	11.631	5	1	sensitive fine grained
18.50	9.36	0.0146	0.156	11.812	4	1	sensitive fine grained
18.57	8.92	0.0195	0.219	12.227	4	1	sensitive fine grained
18.64	8.29	0.0255	0.308	12.836	4	1	sensitive fine grained
18.70	7.64	0.0230	0.301	13.469	4	1	sensitive fine grained
18.77	6.97	0.0066	0.094	14.265	4	1	sensitive fine grained
18.83	6.75	0.0118	0.174	14.901	3	1	sensitive fine grained
18.90	6.90	0.0130	0.189	14.954	3	1	sensitive fine grained
18.96	6.81	0.0066	0.098	14.789	3	1	sensitive fine grained
19.03	6.75	0.0084	0.124	14.783	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	7.07	0.0120	0.169	14.867	3	1	sensitive fine grained
19.16	7.32	0.0127	0.173	14.764	3	1	sensitive fine grained
19.23	7.37	0.0173	0.235	14.514	3	1	sensitive fine grained
19.29	7.22	0.0132	0.182	14.699	3	1	sensitive fine grained
19.36	6.89	0.0141	0.204	15.326	3	1	sensitive fine grained
19.42	6.73	-0.0006	-0.010	15.953	3	1	sensitive fine grained
19.49	6.99	-0.0012	-0.017	16.250	3	1	sensitive fine grained
19.55	7.34	0.0077	0.104	16.012	3	1	sensitive fine grained
19.62	7.23	0.0152	0.210	15.694	3	1	sensitive fine grained
19.69	6.79	0.0148	0.218	15.906	3	1	sensitive fine grained
19.75	6.26	0.0016	0.026	16.640	3	1	sensitive fine grained
19.82	6.55	0.0066	0.100	17.167	3	1	sensitive fine grained
19.88	7.10	0.0058	0.081	17.354	3	1	sensitive fine grained
19.95	7.68	0.0144	0.188	17.158	3	1	sensitive fine grained
20.01	7.88	0.0173	0.220	16.786	4	1	sensitive fine grained
20.08	7.87	0.0113	0.143	16.821	4	1	sensitive fine grained
20.14	7.82	0.0122	0.156	17.070	4	1	sensitive fine grained
20.21	7.64	0.0005	0.007	17.120	4	1	sensitive fine grained
20.28	7.60	0.0022	0.029	17.242	4	1	sensitive fine grained
20.34	7.42	0.0013	0.017	17.295	3	1	sensitive fine grained
20.41	7.10	0.0084	0.119	17.308	3	1	sensitive fine grained
20.47	6.56	0.0072	0.110	17.595	3	1	sensitive fine grained
20.54	6.06	0.0224	0.370	18.281	3	1	sensitive fine grained
20.60	5.94	0.0191	0.322	18.699	3	1	sensitive fine grained
20.67	5.80	0.0595	1.027	18.990	3	1	sensitive fine grained
20.73	6.00	0.0613	1.022	18.890	3	1	sensitive fine grained
20.80	6.35	0.0621	0.977	18.653	3	1	sensitive fine grained
20.87	6.17	0.0531	0.861	17.953	3	1	sensitive fine grained
20.93	6.10	0.0467	0.765	17.904	3	1	sensitive fine grained
21.00	8.66	0.0409	0.472	9.003	4	1	sensitive fine grained
21.06	8.78	0.0417	0.476	10.972	4	1	sensitive fine grained
21.13	8.82	0.0472	0.535	12.539	4	1	sensitive fine grained
21.19	8.99	0.0522	0.580	13.844	4	1	sensitive fine grained
21.26	8.97	0.0457	0.509	14.839	4	1	sensitive fine grained
21.33	8.82	0.0550	0.624	15.491	3	6	sandy silt to clayey silt
21.39	8.98	0.0545	0.608	16.040	4	6	sandy silt to clayey silt
21.46	9.62	0.0506	0.526	16.090	4	6	sandy silt to clayey silt
21.52	9.58	0.0524	0.547	16.143	4	6	sandy silt to clayey silt
21.59	9.82	0.0497	0.506	16.165	4	6	sandy silt to clayey silt
21.65	9.87	0.0371	0.376	16.112	4	6	sandy silt to clayey silt
21.72	9.40	0.0321	0.342	16.193	4	6	sandy silt to clayey silt
21.78	9.09	0.0358	0.394	16.730	5	1	sensitive fine grained
21.85	9.05	0.0377	0.416	16.995	5	1	sensitive fine grained
21.92	9.19	0.0252	0.274	16.861	5	1	sensitive fine grained
21.98	9.43	0.0187	0.199	17.027	5	1	sensitive fine grained
22.05	9.85	0.0196	0.199	17.201	5	1	sensitive fine grained
22.11	10.25	0.0215	0.210	16.811	5	1	sensitive fine grained
22.18	10.16	0.0221	0.218	16.468	5	1	sensitive fine grained
22.24	9.67	0.0224	0.232	16.512	5	1	sensitive fine grained
22.31	9.54	0.0212	0.222	16.677	4	1	sensitive fine grained
22.38	9.18	0.0196	0.213	16.768	4	1	sensitive fine grained
22.44	8.80	0.0175	0.198	17.136	4	1	sensitive fine grained
22.51	8.00	0.0237	0.296	17.741	4	1	sensitive fine grained
22.57	7.57	0.0251	0.332	18.315	4	1	sensitive fine grained
22.64	7.54	0.0238	0.315	18.603	4	1	sensitive fine grained
22.70	8.12	0.0176	0.217	18.509	4	1	sensitive fine grained
22.77	8.83	0.0138	0.156	18.103	4	1	sensitive fine grained
22.83	9.30	0.0152	0.163	17.407	4	1	sensitive fine grained
22.90	8.88	0.0199	0.224	17.020	4	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	8.29	0.0126	0.152	17.276	4	1	sensitive fine grained
23.03	7.57	0.0047	0.062	17.620	4	1	sensitive fine grained
23.10	6.92	0.0037	0.054	18.222	3	1	sensitive fine grained
23.16	6.12	0.0117	0.191	18.865	3	1	sensitive fine grained
23.23	5.50	0.0114	0.208	19.517	3	1	sensitive fine grained
23.29	5.11	0.0120	0.235	19.973	3	1	sensitive fine grained
23.36	4.73	0.0050	0.105	20.313	2	1	sensitive fine grained
23.43	4.57	0.0027	0.059	20.678	2	1	sensitive fine grained
23.49	4.58	-0.0016	-0.035	20.718	2	1	sensitive fine grained
23.56	4.47	0.0040	0.090	20.272	2	1	sensitive fine grained
23.62	4.17	0.0006	0.015	20.512	2	1	sensitive fine grained
23.69	3.91	0.0008	0.020	21.065	2	1	sensitive fine grained
23.75	3.98	0.0024	0.059	21.489	2	1	sensitive fine grained
23.82	4.11	0.0038	0.092	21.486	2	1	sensitive fine grained
23.88	4.26	0.0435	1.022	21.336	2	1	sensitive fine grained
23.95	4.20	0.0354	0.844	21.258	2	1	sensitive fine grained
24.02	4.15	0.0316	0.763	21.364	2	1	sensitive fine grained
24.08	4.21	0.0206	0.489	21.467	2	1	sensitive fine grained
24.15	4.12	0.0120	0.292	21.427	2	1	sensitive fine grained
24.21	5.72	0.0107	0.188	11.169	2	1	sensitive fine grained
24.28	5.33	0.0061	0.114	15.416	2	1	sensitive fine grained
24.34	5.21	0.0246	0.471	17.620	2	1	sensitive fine grained
24.41	4.95	0.0148	0.298	18.908	3	1	sensitive fine grained
24.48	4.74	0.0117	0.247	20.266	3	1	sensitive fine grained
24.54	5.12	-0.0008	-0.016	20.981	3	1	sensitive fine grained
24.61	5.52	-0.0035	-0.064	20.850	3	1	sensitive fine grained
24.67	5.84	-0.0010	-0.016	20.438	3	1	sensitive fine grained
24.74	6.01	-0.0005	-0.009	20.653	3	1	sensitive fine grained
24.80	6.33	-0.0031	-0.049	20.681	3	1	sensitive fine grained
24.87	6.18	0.0074	0.120	20.675	3	1	sensitive fine grained
24.93	5.82	0.0094	0.162	20.753	3	1	sensitive fine grained
25.00	5.17	0.0135	0.261	21.396	3	1	sensitive fine grained
25.07	5.01	0.0049	0.098	22.220	3	1	sensitive fine grained
25.13	5.15	0.0060	0.117	22.516	3	1	sensitive fine grained
25.20	5.52	-0.0012	-0.022	22.494	3	1	sensitive fine grained
25.26	5.92	-0.0033	-0.055	22.354	3	1	sensitive fine grained
25.33	5.85	-0.0004	-0.008	22.294	3	1	sensitive fine grained
25.39	5.71	0.0034	0.059	22.625	3	1	sensitive fine grained
25.46	6.09	0.0026	0.043	22.831	3	1	sensitive fine grained
25.52	6.35	0.0107	0.169	22.794	3	1	sensitive fine grained
25.59	6.34	0.0068	0.108	22.560	3	1	sensitive fine grained
25.66	6.15	-0.0097	-0.158	22.756	3	1	sensitive fine grained
25.72	6.12	-0.0010	-0.017	23.234	3	1	sensitive fine grained
25.79	5.76	0.0159	0.277	23.533	3	1	sensitive fine grained
25.85	5.43	0.0821	1.511	24.822	3	1	sensitive fine grained
25.92	7.11	0.1084	1.524	27.153	4	5	clayey silt to silty clay
25.98	9.92	0.1404	1.415	27.787	4	5	clayey silt to silty clay
26.05	9.73	0.1974	2.030	26.067	4	5	clayey silt to silty clay
26.12	9.69	0.1816	1.874	21.973	5	5	clayey silt to silty clay
26.18	10.92	0.2267	2.075	8.869	5	5	clayey silt to silty clay
26.25	10.71	0.2045	1.909	10.277	7	4	silty clay to clay
26.31	10.52	0.2750	2.616	8.816	7	4	silty clay to clay
26.38	10.22	0.3527	3.453	9.022	7	4	silty clay to clay
26.44	11.29	0.3788	3.354	9.075	7	4	silty clay to clay
26.51	11.32	0.4624	4.084	9.883	7	4	silty clay to clay
26.57	10.57	0.3098	2.932	10.947	10	3	clay
26.64	9.76	0.2832	2.901	8.750	10	3	clay
26.71	8.96	0.3335	3.722	8.286	9	3	clay
26.77	9.15	0.3842	4.199	9.437	9	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	9.66	0.3952	4.092	11.977	9	3	clay
26.90	9.31	0.3523	3.786	12.165	9	3	clay
26.97	8.79	0.2841	3.232	8.669	9	3	clay
27.03	8.14	0.2660	3.268	9.837	6	4	silty clay to clay
27.10	8.53	0.1806	2.118	11.859	6	4	silty clay to clay
27.17	8.86	0.1599	1.806	12.776	5	4	silty clay to clay
27.23	8.58	0.1668	1.944	14.608	5	4	silty clay to clay
27.30	8.41	0.1962	2.334	13.953	5	4	silty clay to clay
27.36	8.19	0.2064	2.520	13.363	5	4	silty clay to clay
27.43	8.18	0.2173	2.657	16.218	5	4	silty clay to clay
27.49	7.85	0.2468	3.142	14.137	5	4	silty clay to clay
27.56	7.59	0.2137	2.817	12.889	5	4	silty clay to clay
27.62	7.41	0.1804	2.434	13.385	5	4	silty clay to clay
27.69	7.54	0.2098	2.781	14.003	7	3	clay
27.76	7.57	0.2548	3.365	14.405	7	3	clay
27.82	7.61	0.2511	3.302	15.463	7	3	clay
27.89	7.54	0.2375	3.148	15.566	7	3	clay
27.95	7.27	0.2009	2.763	13.609	7	3	clay
28.02	7.05	0.1848	2.622	13.325	5	4	silty clay to clay
28.08	7.02	0.1863	2.654	14.589	5	4	silty clay to clay
28.15	7.06	0.1772	2.508	15.703	5	4	silty clay to clay
28.22	7.06	0.1949	2.761	17.123	4	4	silty clay to clay
28.28	7.04	0.1430	2.032	18.206	5	4	silty clay to clay
28.35	7.09	0.1167	1.647	19.217	5	4	silty clay to clay
28.41	6.80	0.1421	2.089	20.968	5	4	silty clay to clay
28.48	7.35	0.1634	2.222	23.717	5	4	silty clay to clay
28.54	9.19	0.1866	2.030	28.358	6	4	silty clay to clay
28.61	9.88	0.2470	2.500	32.203	5	5	clayey silt to silty clay
28.67	9.60	0.2502	2.605	29.575	6	5	clayey silt to silty clay
28.74	11.70	0.2627	2.245	28.573	7	5	clayey silt to silty clay
28.81	15.37	0.2685	1.747	27.568	7	6	sandy silt to clayey silt
28.87	21.89	0.2653	1.212	22.014	8	6	sandy silt to clayey silt
28.94	28.04	0.3226	1.150	12.639	9	6	sandy silt to clayey silt
29.00	31.14	0.4066	1.306	10.985	10	6	sandy silt to clayey silt
29.07	34.61	0.3896	1.126	5.174	10	6	sandy silt to clayey silt
29.13	29.30	0.3548	1.211	1.863	10	6	sandy silt to clayey silt
29.20	21.97	0.3289	1.497	3.514	9	6	sandy silt to clayey silt
29.27	16.81	0.2835	1.687	11.088	8	6	sandy silt to clayey silt
29.33	13.64	0.2235	1.638	18.010	8	5	clayey silt to silty clay
29.40	10.77	0.2608	2.421	37.923	7	5	clayey silt to silty clay
29.46	10.29	0.2845	2.765	52.431	6	5	clayey silt to silty clay
29.53	10.99	0.2736	2.490	51.002	6	5	clayey silt to silty clay
29.59	14.37	0.2504	1.742	7.502	6	5	clayey silt to silty clay
29.66	12.16	0.2470	2.032	8.841	6	5	clayey silt to silty clay
29.72	11.37	0.2312	2.034	10.320	6	5	clayey silt to silty clay
29.79	11.05	0.1933	1.749	11.862	6	5	clayey silt to silty clay
29.86	10.98	0.1721	1.568	14.633	5	5	clayey silt to silty clay
29.92	10.84	0.1513	1.397	17.495	5	5	clayey silt to silty clay
29.99	10.54	0.1584	1.502	19.801	5	5	clayey silt to silty clay
30.05	10.21	0.1495	1.464	22.472	5	5	clayey silt to silty clay
30.12	10.16	0.1548	1.524	25.175	5	5	clayey silt to silty clay
30.18	10.53	0.1483	1.409	27.634	5	5	clayey silt to silty clay
30.25	10.47	0.1453	1.388	29.806	5	5	clayey silt to silty clay
30.31	10.15	0.1283	1.263	31.145	5	5	clayey silt to silty clay
30.38	9.69	0.1192	1.231	28.839	5	5	clayey silt to silty clay
30.45	9.39	0.1217	1.296	30.830	5	5	clayey silt to silty clay
30.51	8.89	0.1151	1.295	32.624	4	5	clayey silt to silty clay
30.58	8.64	0.1148	1.328	34.443	4	5	clayey silt to silty clay
30.64	8.70	0.0993	1.141	32.153	4	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	8.72	0.0902	1.035	33.229	4	5	clayey silt to silty clay
30.77	9.21	0.0909	0.987	37.127	4	5	clayey silt to silty clay
30.84	10.12	0.0862	0.851	39.552	5	5	clayey silt to silty clay
30.91	9.58	0.0756	0.789	34.106	5	5	clayey silt to silty clay
30.97	9.81	0.0811	0.827	38.375	5	5	clayey silt to silty clay
31.04	10.26	0.0792	0.771	42.520	5	5	clayey silt to silty clay
31.10	10.85	0.1095	1.008	43.874	5	5	clayey silt to silty clay
31.17	11.29	0.1350	1.196	44.480	5	5	clayey silt to silty clay
31.23	12.12	0.1600	1.320	40.317	6	5	clayey silt to silty clay
31.30	12.82	0.2281	1.778	35.948	6	5	clayey silt to silty clay
31.36	13.11	0.2768	2.111	28.829	6	5	clayey silt to silty clay
31.43	12.68	0.3382	2.667	21.664	6	5	clayey silt to silty clay
31.50	12.12	0.4198	3.463	18.309	8	4	silty clay to clay
31.56	12.38	0.4315	3.485	16.025	8	4	silty clay to clay
31.63	12.84	0.4241	3.302	14.970	8	4	silty clay to clay
31.69	13.25	0.4233	3.194	15.582	6	5	clayey silt to silty clay
31.76	14.14	0.4101	2.900	28.558	6	5	clayey silt to silty clay
31.82	14.16	0.2848	2.012	24.123	6	6	sandy silt to clayey silt
31.89	13.42	-0.0159	-0.119	28.779	7	6	sandy silt to clayey silt
31.96	14.30	-0.0203	-0.142	36.806	8	7	silty sand to sandy silt
32.02	20.76	-0.0010	-0.005	53.552	10	7	silty sand to sandy silt
32.09	35.69	0.1153	0.323	16.596	13	7	silty sand to sandy silt
32.15	52.27	0.3432	0.657	5.240	15	7	silty sand to sandy silt
32.22	71.50	0.6670	0.933	6.120	18	7	silty sand to sandy silt
32.28	80.85	0.8727	1.079	6.875	19	7	silty sand to sandy silt
32.35	64.15	0.8573	1.336	13.550	20	7	silty sand to sandy silt
32.41	59.42	0.7224	1.216	14.739	20	7	silty sand to sandy silt
32.48	60.63	0.8347	1.377	15.310	18	7	silty sand to sandy silt
32.55	53.38	0.8406	1.575	14.901	16	7	silty sand to sandy silt
32.61	44.54	0.9593	2.154	14.930	17	6	sandy silt to clayey silt
32.68	37.82	1.0413	2.753	14.989	16	6	sandy silt to clayey silt
32.74	33.09	0.9863	2.980	14.749	15	6	sandy silt to clayey silt
32.81	29.52	0.8321	2.819	14.954	15	6	sandy silt to clayey silt
32.87	32.54	0.6358	1.954	14.942	14	7	silty sand to sandy silt
32.94	42.91	0.4787	1.116	8.885	17	7	silty sand to sandy silt
33.01	60.76	0.3425	0.564	1.813	15	8	sand to silty sand
33.07	78.21	0.0870	0.111	-0.815	18	8	sand to silty sand
33.14	93.71	0.0465	0.050	4.029	16	9	sand
33.20	105.28	0.0539	0.051	10.333	18	9	sand
33.27	107.19	0.2047	0.191	10.816	20	9	sand
33.33	113.05	0.2711	0.240	11.260	21	9	sand
33.40	112.84	0.4953	0.439	11.550	21	9	sand
33.46	114.27	0.5893	0.516	11.450	21	9	sand
33.53	113.59	0.6831	0.601	11.428	26	8	sand to silty sand
33.60	105.14	0.7037	0.669	11.153	25	8	sand to silty sand
33.66	104.15	1.0476	1.006	11.375	25	8	sand to silty sand
33.73	91.25	1.5508	1.699	8.342	24	8	sand to silty sand
33.79	92.80	1.7323	1.867	6.784	23	8	sand to silty sand
33.86	98.10	1.2627	1.287	-1.261	23	8	sand to silty sand
33.92	102.33	1.1084	1.083	-5.574	22	8	sand to silty sand
33.99	86.28	1.0624	1.231	-5.692	21	8	sand to silty sand
34.06	83.63	0.9796	1.171	-6.273	21	8	sand to silty sand
34.12	79.36	0.4632	0.584	-1.769	20	8	sand to silty sand
34.19	75.08	0.2883	0.384	8.410	18	8	sand to silty sand
34.25	74.89	0.1960	0.262	8.554	18	8	sand to silty sand
34.32	71.22	0.1999	0.281	9.487	17	8	sand to silty sand
34.38	67.25	0.1456	0.216	9.056	16	8	sand to silty sand
34.45	64.90	0.1248	0.192	8.741	16	8	sand to silty sand
34.51	61.72	0.2369	0.384	9.503	16	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	60.10	0.2899	0.482	9.100	15	8	sand to silty sand
34.65	62.88	0.1689	0.269	10.835	15	8	sand to silty sand
34.71	68.08	0.2499	0.367	11.147	15	8	sand to silty sand
34.78	66.26	0.3908	0.590	10.829	15	8	sand to silty sand
34.84	63.24	0.8088	1.279	11.459	15	8	sand to silty sand
34.91	63.99	0.2337	0.365	10.866	15	8	sand to silty sand
34.97	61.59	0.3793	0.616	11.525	14	8	sand to silty sand
35.04	58.12	0.4147	0.714	11.862	14	8	sand to silty sand
35.10	51.66	0.3523	0.682	11.437	13	8	sand to silty sand
35.17	48.68	0.4904	1.008	11.681	16	7	silty sand to sandy silt
35.24	48.22	0.4084	0.847	10.526	14	7	silty sand to sandy silt
35.30	40.56	0.3784	0.933	10.008	12	7	silty sand to sandy silt
35.37	33.60	0.3562	1.060	9.915	11	7	silty sand to sandy silt
35.43	27.32	0.4129	1.511	11.244	12	6	sandy silt to clayey silt
35.50	19.32	0.5349	2.769	12.932	11	6	sandy silt to clayey silt
35.56	21.11	0.5259	2.491	14.839	9	6	sandy silt to clayey silt
35.63	25.22	0.4799	1.903	13.316	8	6	sandy silt to clayey silt
35.70	26.16	0.2887	1.104	14.399	8	6	sandy silt to clayey silt
35.76	20.42	0.2189	1.072	4.519	7	6	sandy silt to clayey silt
35.83	15.06	0.2192	1.456	7.331	6	6	sandy silt to clayey silt
35.89	13.01	0.1687	1.296	11.428	7	5	clayey silt to silty clay
35.96	7.65	0.2265	2.962	23.221	5	5	clayey silt to silty clay
36.02	6.99	0.2079	2.976	36.843	6	5	clayey silt to silty clay
36.09	6.64	0.1846	2.781	41.452	6	6	sandy silt to clayey silt
36.15	10.43	0.1664	1.595	45.871	9	6	sandy silt to clayey silt
36.22	24.98	0.1752	0.702	41.671	10	7	silty sand to sandy silt
36.29	46.28	0.2583	0.558	9.577	12	7	silty sand to sandy silt
36.35	59.57	0.4158	0.698	7.624	13	7	silty sand to sandy silt
36.42	58.60	0.7083	1.209	9.396	14	7	silty sand to sandy silt
36.48	47.53	0.5346	1.125	12.639	15	7	silty sand to sandy silt
36.55	40.18	0.7361	1.832	16.175	15	7	silty sand to sandy silt
36.61	40.18	0.6780	1.687	14.964	14	7	silty sand to sandy silt
36.68	37.23	0.6218	1.670	15.707	14	7	silty sand to sandy silt
36.75	46.33	0.6254	1.350	10.751	14	7	silty sand to sandy silt
36.81	44.18	0.4887	1.106	-1.404	14	7	silty sand to sandy silt
36.88	45.78	0.5005	1.093	-1.573	15	7	silty sand to sandy silt
36.94	46.99	0.6070	1.292	-2.450	17	7	silty sand to sandy silt
37.01	50.80	0.4541	0.894	-1.233	17	7	silty sand to sandy silt
37.07	63.67	0.6578	1.033	-1.077	18	7	silty sand to sandy silt
37.14	64.25	0.5507	0.857	3.439	18	7	silty sand to sandy silt
37.20	57.18	0.6059	1.060	10.916	18	7	silty sand to sandy silt
37.27	55.73	0.5966	1.071	11.522	17	7	silty sand to sandy silt
37.34	49.31	0.6037	1.224	12.923	15	7	silty sand to sandy silt
37.40	47.97	0.5697	1.188	12.829	14	7	silty sand to sandy silt
37.47	27.96	0.4715	1.687	13.144	14	7	silty sand to sandy silt
37.53	28.32	0.4947	1.747	8.129	14	7	silty sand to sandy silt
37.60	38.09	0.6246	1.640	10.629	16	7	silty sand to sandy silt
37.66	52.90	0.5024	0.950	6.466	17	7	silty sand to sandy silt
37.73	69.23	0.5493	0.793	8.775	19	7	silty sand to sandy silt
37.80	76.25	0.5561	0.729	9.899	21	7	silty sand to sandy silt
37.86	74.47	0.9045	1.215	9.886	23	7	silty sand to sandy silt
37.93	68.56	1.2379	1.806	9.038	25	7	silty sand to sandy silt
37.99	80.13	1.1959	1.493	10.164	27	7	silty sand to sandy silt
38.06	78.26	1.3561	1.733	6.238	30	7	silty sand to sandy silt
38.12	95.14	1.2541	1.318	1.192	25	8	sand to silty sand
38.19	120.17	1.8006	1.498	-2.837	26	8	sand to silty sand
38.25	134.39	1.6218	1.207	-6.329	27	8	sand to silty sand
38.32	140.35	1.4538	1.036	5.873	27	8	sand to silty sand
38.39	121.00	1.4428	1.192	12.636	25	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
38.45	106.94	1.4778	1.382	11.590	29	7	silty sand to sandy silt
38.52	68.72	1.7112	2.490	12.954	24	7	silty sand to sandy silt
38.58	47.60	1.6885	3.547	14.259	22	6	sandy silt to clayey silt
38.65	27.09	1.1195	4.133	14.408	16	6	sandy silt to clayey silt
38.71	18.56	0.6958	3.748	14.489	13	5	clayey silt to silty clay
38.78	15.34	0.5665	3.693	18.765	12	4	silty clay to clay
38.85	10.42	0.3925	3.767	45.463	9	4	silty clay to clay
38.91	8.13	0.3096	3.810	64.178	7	4	silty clay to clay
38.98	7.64	0.2403	3.147	67.670	9	3	clay
39.04	7.17	0.1853	2.585	69.857	8	3	clay
39.11	8.61	0.2743	3.185	62.539	6	4	silty clay to clay
39.17	8.35	0.2985	3.574	49.176	6	5	clayey silt to silty clay
39.24	9.22	0.3322	3.603	20.169	7	5	clayey silt to silty clay
39.30	17.99	0.3113	1.731	23.121	7	5	clayey silt to silty clay
39.37	25.17	0.3281	1.303	18.740	8	5	clayey silt to silty clay
39.44	19.55	0.4140	2.117	16.967	11	5	clayey silt to silty clay
39.50	15.22	0.7489	4.922	21.339	13	6	sandy silt to clayey silt
39.57	15.74	0.9702	6.163	28.052	14	7	silty sand to sandy silt
39.63	52.11	0.8829	1.694	34.802	16	7	silty sand to sandy silt
39.70	87.06	0.8394	0.964	12.221	19	7	silty sand to sandy silt
39.76	90.88	0.7697	0.847	12.776	21	7	silty sand to sandy silt
39.83	78.40	0.7513	0.958	11.384	18	8	sand to silty sand
39.90	68.26	0.6665	0.976	16.646	18	8	sand to silty sand
39.96	68.68	0.5357	0.780	19.283	17	8	sand to silty sand
40.03	70.10	0.6587	0.940	17.270	14	8	sand to silty sand
40.09	60.21	0.4815	0.800	12.430	17	7	silty sand to sandy silt
40.16	46.17	0.3811	0.825	9.097	15	7	silty sand to sandy silt
40.22	32.22	0.2474	0.768	10.857	12	7	silty sand to sandy silt
40.29	24.23	0.2531	1.044	12.626	10	7	silty sand to sandy silt
40.35	17.37	0.3052	1.757	14.455	9	6	sandy silt to clayey silt
40.42	16.85	0.3270	1.941	18.447	7	6	sandy silt to clayey silt
40.49	12.44	0.2536	2.038	35.227	7	5	clayey silt to silty clay
40.55	11.54	0.1727	1.496	41.565	6	5	clayey silt to silty clay
40.62	9.68	0.1312	1.355	45.712	5	5	clayey silt to silty clay
40.68	8.64	0.0944	1.092	46.717	5	5	clayey silt to silty clay
40.75	8.57	0.1022	1.193	47.176	5	5	clayey silt to silty clay
40.81	9.40	0.0985	1.048	48.171	5	6	sandy silt to clayey silt
40.88	11.15	0.1046	0.938	47.641	8	6	sandy silt to clayey silt
40.94	12.40	0.2087	1.683	51.305	8	7	silty sand to sandy silt
41.01	33.38	0.3070	0.920	54.806	0	0	<out of range>
41.08	54.26	0.3048	0.562	32.349	0	0	<out of range>
41.14	56.98	0.2285	0.401	20.282	19	9	sand
41.21	68.10	-32768	-32768	22.944	0	0	<out of range>
41.27	91.73	-32768	-32768	28.061	0	0	<out of range>
41.34	127.70	-32768	-32768	25.996	0	0	<out of range>
41.40	164.07	-32768	-32768	20.116	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

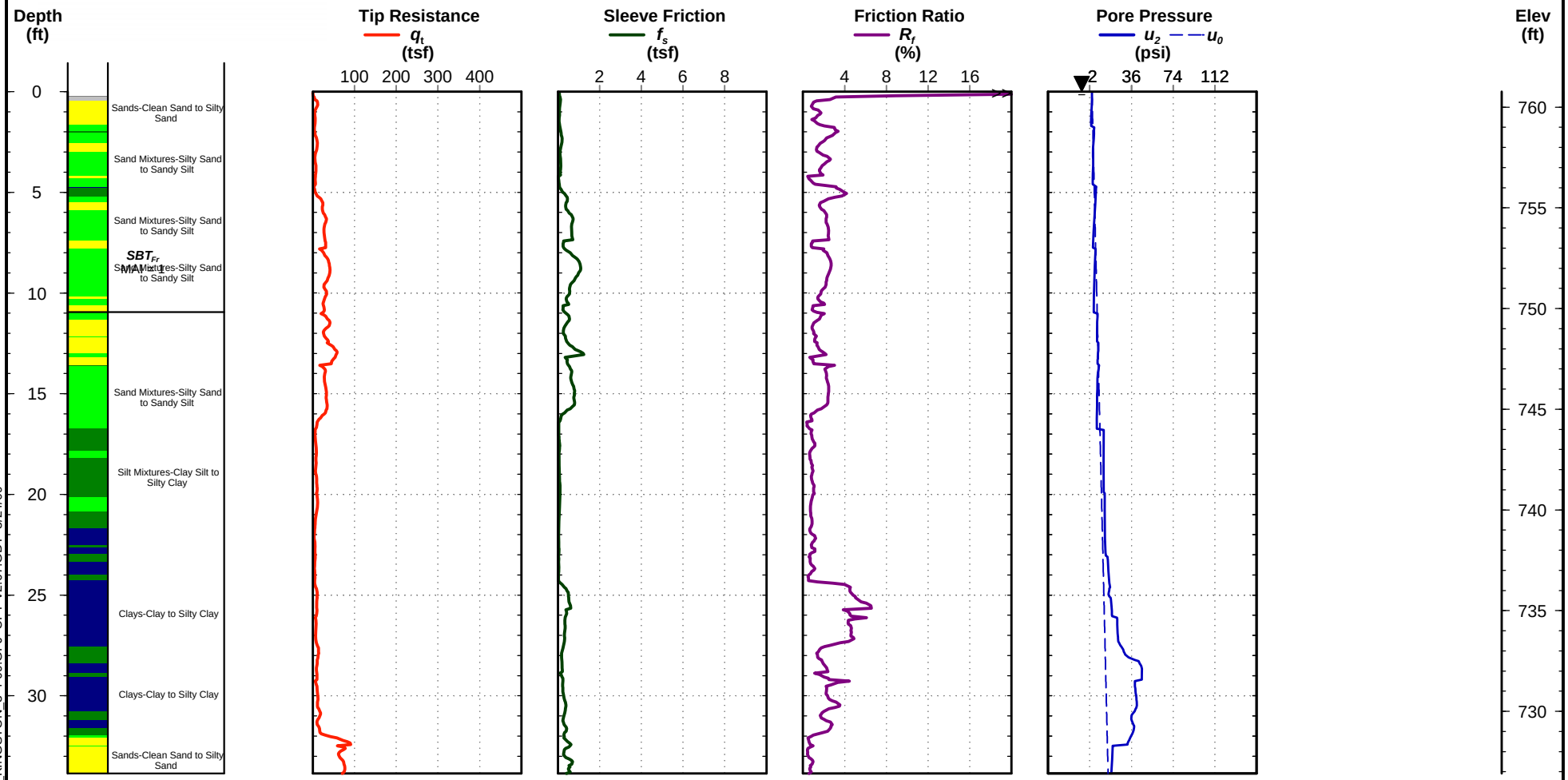
09-201-C2

Project No: 60095742

Date: Feb. 6, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850/CAP

Northing: 558003.09
Easting: 2440258.28
Elevation: 760.77 NGVD

Total Depth: 33.9 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



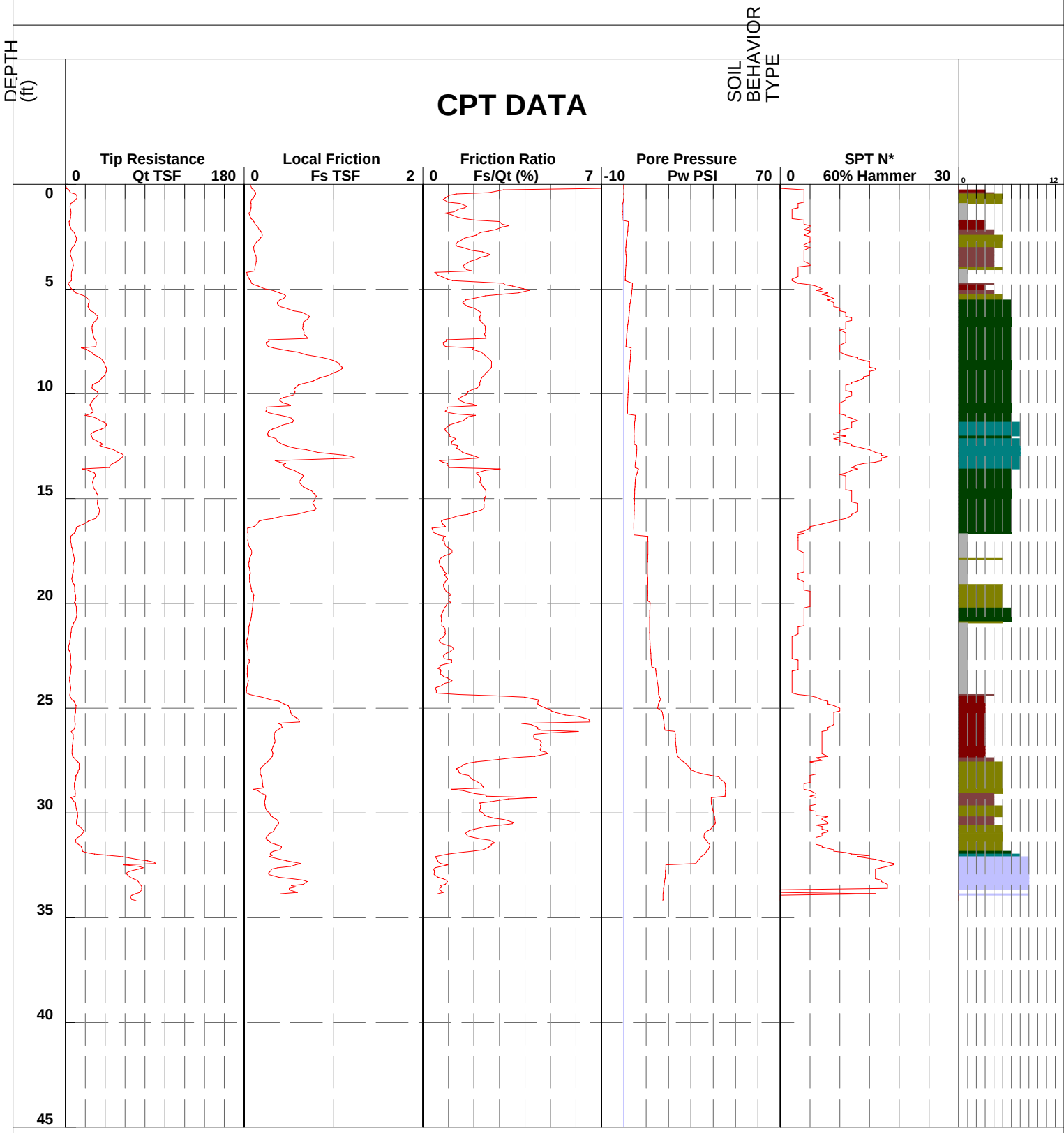
09-201-C2

Electronic Filename: 09-201-C2.cpt

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

AECOM

09-201-C2	60095742	2/6/2009 2:57:32 PM
DTA1081	TVA-Kingston	CME-850/CAP



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-201-C2 2/6/2009 2:57:32 PM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:English

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.2	0.069	31.165	-0.08	0	0	<out of range>
0.20	0.9	0.084	8.917	-0.06	0	0	<out of range>
0.26	3.3	0.104	3.162	0.03	4	3	clay
0.39	4.9	0.127	2.595	0.03	4	4	silty clay to clay
0.46	9.7	0.127	1.311	-0.04	4	5	clayey silt to silty clay
0.52	11.3	0.117	1.033	0.02	4	5	clayey silt to silty clay
0.66	11.6	0.102	0.873	0.02	4	5	clayey silt to silty clay
0.72	10.3	0.082	0.794	-0.12	4	5	clayey silt to silty clay
0.85	7.5	0.074	0.992	-0.29	4	5	clayey silt to silty clay
0.92	5.4	0.078	1.457	-0.54	3	1	sensitive fine grained
1.05	4.5	0.077	1.721	-0.69	3	1	sensitive fine grained
1.12	4.7	0.077	1.636	-0.68	3	1	sensitive fine grained
1.18	5.2	0.074	1.410	-0.64	2	1	sensitive fine grained
1.31	5.6	0.068	1.218	-0.61	2	1	sensitive fine grained
1.38	5.6	0.048	0.860	-0.62	2	1	sensitive fine grained
1.44	5.3	0.058	1.092	-0.63	2	1	sensitive fine grained
1.57	5.1	0.070	1.368	-0.66	2	1	sensitive fine grained
1.64	4.9	0.079	1.618	-0.68	2	1	sensitive fine grained
1.71	4.6	0.095	2.054	-0.69	4	3	clay
1.77	3.6	0.109	3.002	2.01	4	3	clay
1.90	3.9	0.122	3.105	1.96	4	3	clay
1.97	4.1	0.140	3.375	1.91	5	3	clay
2.03	4.9	0.153	3.129	1.87	5	3	clay
2.17	5.9	0.168	2.837	1.82	4	4	silty clay to clay
2.23	7.2	0.186	2.570	1.76	5	4	silty clay to clay
2.30	8.7	0.197	2.260	1.67	5	4	silty clay to clay
2.43	9.7	0.202	2.078	1.56	4	5	clayey silt to silty clay
2.49	10.5	0.199	1.885	1.42	5	5	clayey silt to silty clay
2.56	11.0	0.180	1.646	1.28	5	5	clayey silt to silty clay
2.69	10.8	0.159	1.470	1.17	5	5	clayey silt to silty clay
2.76	10.2	0.138	1.352	1.06	5	5	clayey silt to silty clay
2.89	9.2	0.119	1.290	0.99	4	5	clayey silt to silty clay
2.95	8.1	0.109	1.344	0.93	4	5	clayey silt to silty clay
3.02	6.8	0.106	1.562	0.87	5	4	silty clay to clay
3.15	5.7	0.108	1.917	0.85	4	4	silty clay to clay
3.22	5.0	0.116	2.334	0.88	4	4	silty clay to clay
3.35	4.7	0.124	2.627	0.97	4	4	silty clay to clay
3.41	5.1	0.130	2.535	1.06	4	4	silty clay to clay
3.48	5.9	0.134	2.287	1.13	4	4	silty clay to clay
3.61	6.6	0.135	2.033	1.13	4	4	silty clay to clay
3.67	7.3	0.135	1.852	1.07	4	4	silty clay to clay
3.81	7.7	0.130	1.677	1.01	5	4	silty clay to clay
3.87	7.8	0.123	1.584	0.95	5	4	silty clay to clay
3.94	7.5	0.119	1.591	0.90	3	5	clayey silt to silty clay
4.07	6.9	0.118	1.706	0.83	3	1	sensitive fine grained
4.13	6.4	0.123	1.930	0.77	3	1	sensitive fine grained
4.20	5.9	0.028	0.464	0.73	3	1	sensitive fine grained
4.33	5.8	0.033	0.567	0.70	3	1	sensitive fine grained
4.40	5.9	0.043	0.732	0.69	3	1	sensitive fine grained
4.53	6.0	0.058	0.968	0.66	2	1	sensitive fine grained
4.59	6.1	0.070	1.159	0.63	2	1	sensitive fine grained
4.72	2.6	0.084	3.166	3.87	3	4	silty clay to clay
4.79	3.4	0.109	3.203	3.83	5	3	clay
4.86	4.5	0.157	3.516	3.78	6	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
4.99	5.8	0.227	3.937	3.71	7	3	clay
5.05	7.4	0.312	4.192	3.63	6	4	silty clay to clay
5.18	10.6	0.395	3.739	3.56	8	4	silty clay to clay
5.25	14.6	0.447	3.061	3.48	7	5	clayey silt to silty clay
5.31	18.9	0.463	2.452	3.36	8	5	clayey silt to silty clay
5.45	22.4	0.442	1.976	3.23	9	5	clayey silt to silty clay
5.51	23.8	0.399	1.678	3.06	8	6	sandy silt to clayey silt
5.64	23.7	0.371	1.562	2.90	9	6	sandy silt to clayey silt
5.71	23.1	0.371	1.607	2.75	9	6	sandy silt to clayey silt
5.84	22.7	0.402	1.772	2.63	9	6	sandy silt to clayey silt
5.91	23.3	0.466	2.002	2.55	10	6	sandy silt to clayey silt
6.04	25.4	0.550	2.167	2.49	10	6	sandy silt to clayey silt
6.10	28.4	0.643	2.268	2.43	11	6	sandy silt to clayey silt
6.23	31.1	0.706	2.273	2.36	11	6	sandy silt to clayey silt
6.30	32.7	0.730	2.233	2.28	11	6	sandy silt to clayey silt
6.36	32.4	0.722	2.232	2.17	12	6	sandy silt to clayey silt
6.50	30.8	0.689	2.234	2.04	12	6	sandy silt to clayey silt
6.56	29.0	0.664	2.290	1.91	11	6	sandy silt to clayey silt
6.69	27.5	0.657	2.390	1.78	11	6	sandy silt to clayey silt
6.76	26.8	0.657	2.447	1.66	11	6	sandy silt to clayey silt
6.89	26.8	0.653	2.440	1.57	11	6	sandy silt to clayey silt
6.96	27.0	0.664	2.457	1.49	10	6	sandy silt to clayey silt
7.09	27.3	0.669	2.452	1.41	11	6	sandy silt to clayey silt
7.15	27.6	0.667	2.413	1.35	11	6	sandy silt to clayey silt
7.22	28.1	0.685	2.440	1.28	11	6	sandy silt to clayey silt
7.35	28.9	0.715	2.475	1.23	11	6	sandy silt to clayey silt
7.41	29.8	0.271	0.912	1.18	11	6	sandy silt to clayey silt
7.48	30.6	0.280	0.914	1.14	11	6	sandy silt to clayey silt
7.55	31.0	0.246	0.796	1.09	11	6	sandy silt to clayey silt
7.68	30.9	0.250	0.808	1.01	10	6	sandy silt to clayey silt
7.74	30.6	0.274	0.896	0.93	10	6	sandy silt to clayey silt
7.81	16.1	0.324	2.014	3.28	10	6	sandy silt to clayey silt
7.87	20.9	0.403	1.926	3.16	10	6	sandy silt to clayey silt
7.94	23.4	0.492	2.106	3.07	10	6	sandy silt to clayey silt
8.01	26.0	0.594	2.289	3.03	10	6	sandy silt to clayey silt
8.14	29.0	0.698	2.404	3.02	11	6	sandy silt to clayey silt
8.20	32.1	0.794	2.474	2.98	12	6	sandy silt to clayey silt
8.27	34.5	0.878	2.546	2.94	13	6	sandy silt to clayey silt
8.33	36.2	0.942	2.601	2.90	13	6	sandy silt to clayey silt
8.40	37.4	0.991	2.650	2.85	14	6	sandy silt to clayey silt
8.46	38.3	1.029	2.690	2.79	15	6	sandy silt to clayey silt
8.53	39.2	1.053	2.688	2.72	15	6	sandy silt to clayey silt
8.66	40.1	1.077	2.685	2.65	15	6	sandy silt to clayey silt
8.73	40.8	1.095	2.684	2.58	15	6	sandy silt to clayey silt
8.79	41.3	1.095	2.653	2.53	16	6	sandy silt to clayey silt
8.86	41.4	1.080	2.608	2.46	16	6	sandy silt to clayey silt
8.92	41.1	1.049	2.550	2.40	15	6	sandy silt to clayey silt
8.99	40.4	1.002	2.481	2.34	15	6	sandy silt to clayey silt
9.12	39.4	0.948	2.405	2.28	15	6	sandy silt to clayey silt
9.19	38.1	0.891	2.339	2.24	14	6	sandy silt to clayey silt
9.25	36.5	0.837	2.295	2.18	14	6	sandy silt to clayey silt
9.38	34.4	0.777	2.258	2.13	13	6	sandy silt to clayey silt
9.45	32.0	0.714	2.234	2.08	12	6	sandy silt to clayey silt
9.51	29.4	0.655	2.229	2.02	12	6	sandy silt to clayey silt
9.58	27.1	0.604	2.230	1.98	11	6	sandy silt to clayey silt
9.71	26.8	0.570	2.132	1.96	11	6	sandy silt to clayey silt
9.78	28.1	0.557	1.981	1.94	11	6	sandy silt to clayey silt
9.84	30.3	0.559	1.845	1.93	11	6	sandy silt to clayey silt
9.91	32.4	0.569	1.758	1.92	12	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
10.04	32.9	0.559	1.696	1.88	12	6	sandy silt to clayey silt
10.10	31.9	0.505	1.584	1.85	12	6	sandy silt to clayey silt
10.17	30.4	0.443	1.459	1.83	11	6	sandy silt to clayey silt
10.24	28.9	0.405	1.400	1.79	11	6	sandy silt to clayey silt
10.30	27.4	0.394	1.437	1.76	11	6	sandy silt to clayey silt
10.43	26.1	0.438	1.675	1.72	10	6	sandy silt to clayey silt
10.50	24.8	0.496	1.999	1.69	10	6	sandy silt to clayey silt
10.56	24.8	0.517	2.085	1.67	10	6	sandy silt to clayey silt
10.63	25.9	0.249	0.961	1.67	10	6	sandy silt to clayey silt
10.76	27.1	0.253	0.932	1.66	10	6	sandy silt to clayey silt
10.83	27.9	0.243	0.871	1.65	10	6	sandy silt to clayey silt
10.89	26.9	0.274	1.020	1.62	10	6	sandy silt to clayey silt
10.96	24.8	0.330	1.331	1.62	10	6	sandy silt to clayey silt
11.02	19.7	0.407	2.064	5.21	11	6	sandy silt to clayey silt
11.09	26.7	0.478	1.787	5.11	11	6	sandy silt to clayey silt
11.15	31.0	0.529	1.704	5.03	12	6	sandy silt to clayey silt
11.29	35.2	0.555	1.576	4.95	13	6	sandy silt to clayey silt
11.35	38.8	0.541	1.394	4.89	12	7	silty sand to sandy silt
11.42	40.8	0.497	1.219	4.84	12	7	silty sand to sandy silt
11.48	41.0	0.431	1.050	4.77	12	7	silty sand to sandy silt
11.61	39.6	0.365	0.922	4.71	12	7	silty sand to sandy silt
11.68	36.4	0.316	0.869	4.66	11	7	silty sand to sandy silt
11.75	32.2	0.283	0.879	4.61	10	7	silty sand to sandy silt
11.81	28.8	0.269	0.933	4.58	10	7	silty sand to sandy silt
11.88	26.3	0.263	0.998	4.56	9	7	silty sand to sandy silt
11.94	25.5	0.265	1.042	4.56	9	7	silty sand to sandy silt
12.01	26.1	0.267	1.023	4.59	11	6	sandy silt to clayey silt
12.14	27.4	0.356	1.299	4.61	9	7	silty sand to sandy silt
12.20	29.8	0.363	1.216	4.62	10	7	silty sand to sandy silt
12.27	32.8	0.371	1.131	4.63	10	7	silty sand to sandy silt
12.34	35.5	0.398	1.121	4.62	11	7	silty sand to sandy silt
12.40	37.8	0.425	1.125	4.62	12	7	silty sand to sandy silt
12.47	34.5	0.469	1.359	5.76	12	7	silty sand to sandy silt
12.53	38.4	0.515	1.340	5.78	13	7	silty sand to sandy silt
12.60	44.1	0.586	1.330	5.79	14	7	silty sand to sandy silt
12.66	48.6	0.697	1.433	5.77	15	7	silty sand to sandy silt
12.80	52.9	0.823	1.556	5.76	16	7	silty sand to sandy silt
12.86	56.7	0.970	1.709	5.72	17	7	silty sand to sandy silt
12.93	58.2	1.112	1.910	5.65	17	7	silty sand to sandy silt
12.99	57.9	1.206	2.084	5.56	18	7	silty sand to sandy silt
13.06	56.1	1.243	2.215	5.46	17	7	silty sand to sandy silt
13.19	53.2	0.345	0.649	5.34	17	7	silty sand to sandy silt
13.25	50.4	0.397	0.789	5.25	16	7	silty sand to sandy silt
13.32	47.8	0.463	0.968	5.17	14	7	silty sand to sandy silt
13.39	45.7	0.429	0.939	5.08	13	7	silty sand to sandy silt
13.52	44.0	0.464	1.054	5.01	12	7	silty sand to sandy silt
13.58	16.8	0.509	3.033	6.56	13	6	sandy silt to clayey silt
13.65	23.0	0.561	2.435	6.30	12	6	sandy silt to clayey silt
13.78	29.1	0.611	2.100	5.97	11	6	sandy silt to clayey silt
13.85	30.2	0.649	2.145	5.71	10	6	sandy silt to clayey silt
13.91	30.1	0.663	2.204	5.48	11	6	sandy silt to clayey silt
13.98	29.0	0.652	2.249	5.31	11	6	sandy silt to clayey silt
14.11	27.9	0.630	2.259	5.20	11	6	sandy silt to clayey silt
14.17	27.5	0.615	2.237	5.14	11	6	sandy silt to clayey silt
14.24	27.5	0.615	2.240	5.07	11	6	sandy silt to clayey silt
14.30	27.7	0.633	2.291	5.03	11	6	sandy silt to clayey silt
14.44	28.1	0.662	2.356	4.99	11	6	sandy silt to clayey silt
14.50	28.7	0.691	2.412	4.94	11	6	sandy silt to clayey silt
14.57	29.5	0.721	2.443	4.92	11	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
14.63	30.6	0.756	2.466	4.89	12	6	sandy silt to clayey silt
14.76	31.7	0.782	2.470	4.85	12	6	sandy silt to clayey silt
14.83	32.5	0.802	2.472	4.83	12	6	sandy silt to clayey silt
14.90	32.8	0.806	2.460	4.79	12	6	sandy silt to clayey silt
14.96	32.7	0.794	2.428	4.78	12	6	sandy silt to clayey silt
15.09	32.5	0.784	2.413	4.74	12	6	sandy silt to clayey silt
15.16	32.2	0.770	2.393	4.72	12	6	sandy silt to clayey silt
15.22	32.1	0.767	2.387	4.69	13	6	sandy silt to clayey silt
15.29	32.5	0.779	2.396	4.66	13	6	sandy silt to clayey silt
15.42	33.2	0.797	2.397	4.66	13	6	sandy silt to clayey silt
15.49	34.0	0.806	2.368	4.64	13	6	sandy silt to clayey silt
15.55	34.4	0.784	2.280	4.62	13	6	sandy silt to clayey silt
15.62	34.2	0.715	2.089	4.61	13	6	sandy silt to clayey silt
15.75	33.5	0.589	1.756	4.57	12	6	sandy silt to clayey silt
15.81	32.3	0.446	1.381	4.55	12	6	sandy silt to clayey silt
15.94	30.1	0.318	1.058	4.52	11	6	sandy silt to clayey silt
16.01	27.0	0.220	0.812	4.50	10	6	sandy silt to clayey silt
16.08	23.0	0.166	0.721	4.48	9	6	sandy silt to clayey silt
16.21	18.6	0.144	0.775	4.46	7	6	sandy silt to clayey silt
16.27	15.0	0.126	0.841	4.45	6	6	sandy silt to clayey silt
16.34	12.3	0.108	0.875	4.44	5	6	sandy silt to clayey silt
16.40	10.7	0.038	0.354	4.44	5	6	sandy silt to clayey silt
16.54	10.1	0.041	0.401	4.46	4	6	sandy silt to clayey silt
16.60	9.5	0.037	0.395	4.48	3	6	sandy silt to clayey silt
16.67	8.4	0.044	0.519	4.49	4	1	sensitive fine grained
16.73	7.1	0.044	0.619	4.50	3	1	sensitive fine grained
16.80	4.8	0.042	0.876	10.80	3	1	sensitive fine grained
16.86	5.4	0.043	0.802	10.76	3	1	sensitive fine grained
16.99	5.1	0.040	0.783	10.77	3	1	sensitive fine grained
17.06	5.2	0.043	0.837	10.79	3	1	sensitive fine grained
17.13	5.7	0.048	0.846	10.80	3	1	sensitive fine grained
17.26	6.0	0.054	0.896	10.82	3	1	sensitive fine grained
17.32	6.4	0.063	0.983	10.83	3	1	sensitive fine grained
17.39	6.9	0.071	1.028	10.82	3	1	sensitive fine grained
17.45	7.1	0.081	1.146	10.80	3	1	sensitive fine grained
17.59	7.4	0.085	1.146	10.79	4	1	sensitive fine grained
17.65	7.9	0.081	1.030	10.78	4	1	sensitive fine grained
17.72	8.4	0.073	0.869	10.75	4	1	sensitive fine grained
17.85	8.8	0.061	0.698	10.72	4	5	clayey silt to silty clay
17.91	9.0	0.058	0.650	10.67	4	1	sensitive fine grained
17.98	8.8	0.056	0.633	10.61	4	1	sensitive fine grained
18.04	8.3	0.053	0.645	10.57	4	1	sensitive fine grained
18.18	7.7	0.051	0.670	10.55	4	1	sensitive fine grained
18.24	7.5	0.051	0.684	10.53	4	1	sensitive fine grained
18.31	7.6	0.059	0.776	10.52	4	1	sensitive fine grained
18.44	7.8	0.062	0.800	10.52	4	1	sensitive fine grained
18.50	7.8	0.066	0.851	10.51	4	1	sensitive fine grained
18.57	7.4	0.069	0.929	10.54	3	1	sensitive fine grained
18.64	7.0	0.060	0.859	10.59	3	1	sensitive fine grained
18.77	6.6	0.061	0.918	10.64	3	1	sensitive fine grained
18.83	6.3	0.061	0.968	10.70	3	1	sensitive fine grained
18.96	7.0	0.061	0.875	10.74	4	1	sensitive fine grained
19.03	7.8	0.067	0.857	10.74	4	1	sensitive fine grained
19.09	8.6	0.069	0.807	10.73	4	5	clayey silt to silty clay
19.23	9.4	0.077	0.817	10.71	4	5	clayey silt to silty clay
19.29	9.3	0.079	0.849	10.72	4	5	clayey silt to silty clay
19.36	9.2	0.081	0.888	10.72	4	5	clayey silt to silty clay
19.42	9.3	0.085	0.908	10.72	5	5	clayey silt to silty clay
19.55	9.7	0.104	1.071	10.73	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.62	10.2	0.109	1.065	10.71	5	5	clayey silt to silty clay
19.69	10.3	0.105	1.015	10.70	5	5	clayey silt to silty clay
19.75	10.4	0.107	1.030	10.69	5	5	clayey silt to silty clay
19.88	10.2	0.103	1.008	10.67	5	5	clayey silt to silty clay
19.95	8.9	0.098	1.096	11.74	5	5	clayey silt to silty clay
20.01	10.1	0.095	0.945	11.74	5	5	clayey silt to silty clay
20.14	10.8	0.096	0.893	11.70	5	5	clayey silt to silty clay
20.21	11.0	0.093	0.843	11.67	4	6	sandy silt to clayey silt
20.28	11.0	0.091	0.826	11.66	4	6	sandy silt to clayey silt
20.34	11.0	0.088	0.803	11.63	4	6	sandy silt to clayey silt
20.47	11.2	0.084	0.752	11.62	4	6	sandy silt to clayey silt
20.54	11.5	0.083	0.723	11.60	4	6	sandy silt to clayey silt
20.60	11.3	0.080	0.713	11.59	4	6	sandy silt to clayey silt
20.67	10.8	0.079	0.730	11.57	4	6	sandy silt to clayey silt
20.80	10.0	0.073	0.724	11.57	4	6	sandy silt to clayey silt
20.87	9.1	0.067	0.731	11.56	4	5	clayey silt to silty clay
20.93	8.3	0.062	0.748	11.54	4	1	sensitive fine grained
21.06	7.5	0.055	0.738	11.55	4	1	sensitive fine grained
21.13	6.6	0.054	0.811	11.55	3	1	sensitive fine grained
21.19	6.0	0.051	0.864	11.55	3	1	sensitive fine grained
21.33	5.8	0.051	0.880	11.57	3	1	sensitive fine grained
21.39	5.6	0.049	0.869	11.58	3	1	sensitive fine grained
21.46	5.4	0.048	0.883	11.60	3	1	sensitive fine grained
21.59	5.3	0.043	0.811	11.62	2	1	sensitive fine grained
21.65	5.0	0.036	0.718	11.63	2	1	sensitive fine grained
21.72	4.7	0.031	0.662	11.65	2	1	sensitive fine grained
21.78	4.4	0.028	0.636	11.68	2	1	sensitive fine grained
21.92	4.0	0.030	0.746	11.71	2	1	sensitive fine grained
21.98	3.5	0.031	0.890	11.74	2	1	sensitive fine grained
22.05	3.1	0.034	1.112	11.81	2	1	sensitive fine grained
22.18	3.1	0.038	1.218	11.87	2	1	sensitive fine grained
22.24	3.6	0.040	1.113	11.97	2	1	sensitive fine grained
22.31	4.1	0.044	1.063	12.04	2	1	sensitive fine grained
22.38	4.8	0.044	0.913	12.10	2	1	sensitive fine grained
22.51	5.3	0.042	0.791	12.14	2	1	sensitive fine grained
22.57	5.4	0.044	0.818	12.16	2	1	sensitive fine grained
22.64	5.2	0.044	0.840	12.18	2	1	sensitive fine grained
22.70	5.0	0.057	1.128	12.23	3	1	sensitive fine grained
22.83	5.0	0.056	1.125	12.31	3	1	sensitive fine grained
22.90	5.1	0.043	0.840	12.38	3	1	sensitive fine grained
22.97	5.7	0.037	0.661	12.47	3	1	sensitive fine grained
23.03	5.7	0.039	0.675	12.52	3	1	sensitive fine grained
23.10	5.6	0.033	0.581	14.24	3	1	sensitive fine grained
23.16	5.4	0.038	0.697	14.24	3	1	sensitive fine grained
23.23	5.2	0.037	0.707	14.32	2	1	sensitive fine grained
23.36	5.0	0.034	0.675	14.43	2	1	sensitive fine grained
23.43	4.7	0.036	0.764	14.53	2	1	sensitive fine grained
23.49	4.5	0.036	0.811	14.65	2	1	sensitive fine grained
23.56	4.3	0.041	0.967	14.75	2	1	sensitive fine grained
23.69	4.1	0.046	1.137	14.86	2	1	sensitive fine grained
23.75	4.2	0.044	1.048	15.01	2	1	sensitive fine grained
23.82	4.6	0.039	0.854	15.17	2	1	sensitive fine grained
23.95	5.0	0.035	0.701	15.29	2	1	sensitive fine grained
24.02	5.3	0.028	0.519	15.38	2	1	sensitive fine grained
24.08	5.2	0.025	0.486	15.41	2	1	sensitive fine grained
24.15	4.9	0.026	0.530	15.44	2	1	sensitive fine grained
24.28	4.7	0.025	0.525	15.50	2	1	sensitive fine grained
24.34	4.5	0.062	1.393	15.61	3	4	silty clay to clay
24.41	4.3	0.123	2.866	15.74	5	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
24.48	5.0	0.200	3.993	16.06	6	3	clay
24.61	6.8	0.308	4.543	16.57	7	3	clay
24.67	8.6	0.389	4.512	15.95	8	3	clay
24.80	9.9	0.446	4.503	15.54	8	3	clay
24.87	10.7	0.491	4.584	15.36	9	3	clay
25.00	10.5	0.506	4.813	15.11	10	3	clay
25.07	10.2	0.511	5.008	16.12	10	3	clay
25.13	10.3	0.518	5.030	16.90	10	3	clay
25.20	10.0	0.521	5.203	17.25	9	3	clay
25.33	9.5	0.533	5.581	17.45	9	3	clay
25.39	9.2	0.557	6.080	17.55	9	3	clay
25.46	9.2	0.581	6.288	17.69	9	3	clay
25.52	9.3	0.607	6.503	17.84	9	3	clay
25.66	9.5	0.620	6.552	17.92	9	3	clay
25.72	9.8	0.379	3.869	17.94	9	3	clay
25.79	9.7	0.414	4.251	18.07	9	3	clay
25.92	9.5	0.425	4.500	18.17	8	3	clay
25.98	8.8	0.397	4.493	18.28	8	3	clay
26.05	7.9	0.368	4.639	18.42	8	3	clay
26.12	5.8	0.351	6.092	22.89	7	3	clay
26.18	6.8	0.337	4.970	22.96	7	3	clay
26.25	7.7	0.336	4.355	23.02	7	3	clay
26.38	7.8	0.338	4.334	23.06	7	3	clay
26.44	7.8	0.339	4.358	23.09	7	3	clay
26.51	7.6	0.346	4.577	23.12	7	3	clay
26.64	7.4	0.343	4.643	23.15	7	3	clay
26.71	7.3	0.336	4.615	23.18	7	3	clay
26.77	7.2	0.330	4.607	23.28	7	3	clay
26.84	7.0	0.323	4.638	23.38	7	3	clay
26.97	6.8	0.310	4.590	23.48	7	3	clay
27.03	6.7	0.307	4.609	23.59	7	3	clay
27.10	6.6	0.318	4.830	23.66	7	3	clay
27.17	6.6	0.320	4.877	23.75	7	3	clay
27.30	7.2	0.315	4.377	24.04	8	3	clay
27.36	8.5	0.301	3.556	24.71	6	4	silty clay to clay
27.49	10.6	0.279	2.624	25.74	7	4	silty clay to clay
27.56	12.5	0.260	2.074	26.74	5	5	clayey silt to silty clay
27.62	13.7	0.241	1.755	27.55	6	5	clayey silt to silty clay
27.69	13.8	0.221	1.607	28.30	6	5	clayey silt to silty clay
27.82	13.6	0.198	1.463	29.14	6	5	clayey silt to silty clay
27.89	13.9	0.182	1.306	29.77	6	5	clayey silt to silty clay
27.95	12.9	0.179	1.393	30.30	6	5	clayey silt to silty clay
28.08	12.6	0.179	1.423	33.29	6	5	clayey silt to silty clay
28.15	11.7	0.180	1.543	36.01	6	5	clayey silt to silty clay
28.22	10.5	0.189	1.795	38.98	5	5	clayey silt to silty clay
28.28	10.6	0.194	1.831	42.63	5	5	clayey silt to silty clay
28.41	10.3	0.201	1.958	43.55	5	5	clayey silt to silty clay
28.48	9.8	0.204	2.080	44.38	5	5	clayey silt to silty clay
28.54	9.3	0.202	2.170	45.13	5	5	clayey silt to silty clay
28.61	9.0	0.205	2.280	45.31	4	5	clayey silt to silty clay
28.74	8.9	0.210	2.353	45.45	4	5	clayey silt to silty clay
28.81	9.0	0.216	2.387	45.53	4	5	clayey silt to silty clay
28.87	9.3	0.105	1.125	45.54	4	5	clayey silt to silty clay
28.94	9.6	0.152	1.578	45.50	5	5	clayey silt to silty clay
29.07	9.8	0.199	2.031	45.43	6	4	silty clay to clay
29.13	9.8	0.239	2.441	45.33	6	4	silty clay to clay
29.20	9.7	0.241	2.486	45.32	5	4	silty clay to clay
29.27	5.4	0.239	4.448	39.15	6	4	silty clay to clay
29.33	7.0	0.235	3.359	39.10	6	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
29.46	8.6	0.229	2.665	39.12	6	4	silty clay to clay
29.53	10.1	0.226	2.233	39.17	6	4	silty clay to clay
29.59	10.2	0.232	2.280	39.31	6	4	silty clay to clay
29.66	10.4	0.235	2.256	39.47	5	5	clayey silt to silty clay
29.79	10.7	0.241	2.249	39.66	5	5	clayey silt to silty clay
29.86	11.3	0.250	2.226	39.88	5	5	clayey silt to silty clay
29.92	11.7	0.260	2.226	40.07	6	5	clayey silt to silty clay
29.99	12.0	0.279	2.336	40.25	6	5	clayey silt to silty clay
30.12	12.2	0.297	2.428	40.42	6	5	clayey silt to silty clay
30.18	12.2	0.315	2.569	40.61	8	4	silty clay to clay
30.25	12.0	0.336	2.802	40.74	7	4	silty clay to clay
30.31	11.4	0.363	3.181	40.83	7	4	silty clay to clay
30.45	10.9	0.385	3.540	40.91	8	4	silty clay to clay
30.51	11.0	0.385	3.503	40.86	8	4	silty clay to clay
30.58	12.0	0.370	3.069	40.55	6	5	clayey silt to silty clay
30.64	14.3	0.357	2.501	39.90	7	5	clayey silt to silty clay
30.77	16.8	0.339	2.019	38.88	7	5	clayey silt to silty clay
30.84	18.3	0.332	1.818	37.69	8	5	clayey silt to silty clay
30.91	18.4	0.321	1.747	36.79	8	5	clayey silt to silty clay
30.97	17.1	0.285	1.665	36.20	7	5	clayey silt to silty clay
31.10	14.8	0.260	1.758	35.88	7	5	clayey silt to silty clay
31.17	12.4	0.247	1.989	35.90	6	5	clayey silt to silty clay
31.23	10.8	0.242	2.237	36.29	6	5	clayey silt to silty clay
31.30	10.0	0.264	2.633	36.90	6	5	clayey silt to silty clay
31.43	10.7	0.300	2.817	37.71	6	5	clayey silt to silty clay
31.50	13.0	0.349	2.678	38.45	6	5	clayey silt to silty clay
31.56	15.0	0.402	2.679	38.50	7	5	clayey silt to silty clay
31.63	16.2	0.418	2.585	38.23	7	5	clayey silt to silty clay
31.76	17.0	0.401	2.364	37.68	9	5	clayey silt to silty clay
31.82	17.0	0.328	1.929	37.07	9	6	sandy silt to clayey silt
31.89	20.5	0.297	1.448	36.71	11	6	sandy silt to clayey silt
31.96	29.3	0.292	0.997	36.25	12	7	silty sand to sandy silt
32.02	42.5	0.316	0.745	35.50	15	7	silty sand to sandy silt
32.09	57.6	0.281	0.487	34.60	13	8	sand to silty sand
32.22	72.2	0.404	0.560	33.73	16	8	sand to silty sand
32.28	82.7	0.476	0.575	33.05	17	8	sand to silty sand
32.35	89.4	0.555	0.621	32.61	18	8	sand to silty sand
32.41	90.9	0.634	0.698	32.32	19	8	sand to silty sand
32.48	58.7	0.575	0.980	18.80	19	8	sand to silty sand
32.55	74.2	0.519	0.700	18.86	18	8	sand to silty sand
32.61	78.1	0.376	0.481	18.79	17	8	sand to silty sand
32.68	73.7	0.307	0.417	18.75	16	8	sand to silty sand
32.74	67.7	0.299	0.441	18.68	16	8	sand to silty sand
32.81	63.2	0.286	0.453	18.65	16	8	sand to silty sand
32.87	61.3	0.270	0.440	18.64	16	8	sand to silty sand
32.94	62.1	0.277	0.446	18.57	16	8	sand to silty sand
33.07	65.1	0.385	0.591	18.54	16	8	sand to silty sand
33.14	68.2	0.535	0.784	18.44	16	8	sand to silty sand
33.20	71.6	0.657	0.917	18.33	17	8	sand to silty sand
33.27	73.4	0.704	0.958	18.20	17	8	sand to silty sand
33.40	75.1	0.661	0.881	18.05	18	8	sand to silty sand
33.46	76.2	0.526	0.691	17.97	18	8	sand to silty sand
33.53	76.9	0.579	0.752	17.92	18	8	sand to silty sand
33.60	76.8	0.507	0.660	17.83	18	8	sand to silty sand
33.66	76.8	0.503	0.655	17.75	0	0	<out of range>
33.79	74.6	0.596	0.798	17.65	0	0	<out of range>
33.86	70.6	0.409	0.579	17.58	16	8	sand to silty sand
33.92	66.9	-32768	-32768	17.56	0	0	<out of range>
33.99	65.3	-32768	-32768	17.54	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.12	66.6	-32768	-32768	17.53	0	0	<out of range>
34.19	71.0	-32768	-32768	17.45	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

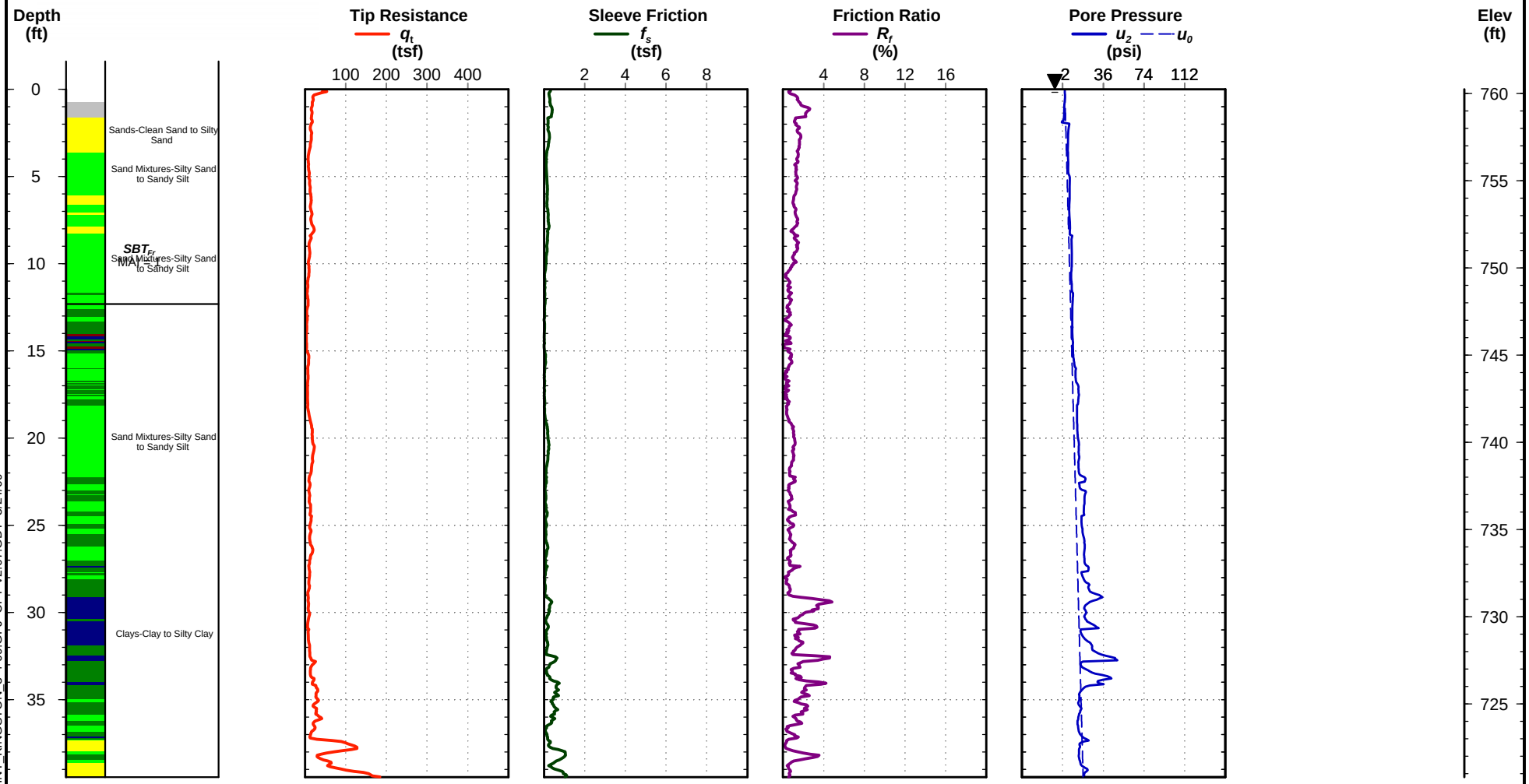
09-202-C1

Project No: 60095742

Date: Feb. 5, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850/CAP

Northing: 558100.37
Easting: 2440412.17
Elevation: 760.24 NGVD

Total Depth: 39.4 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



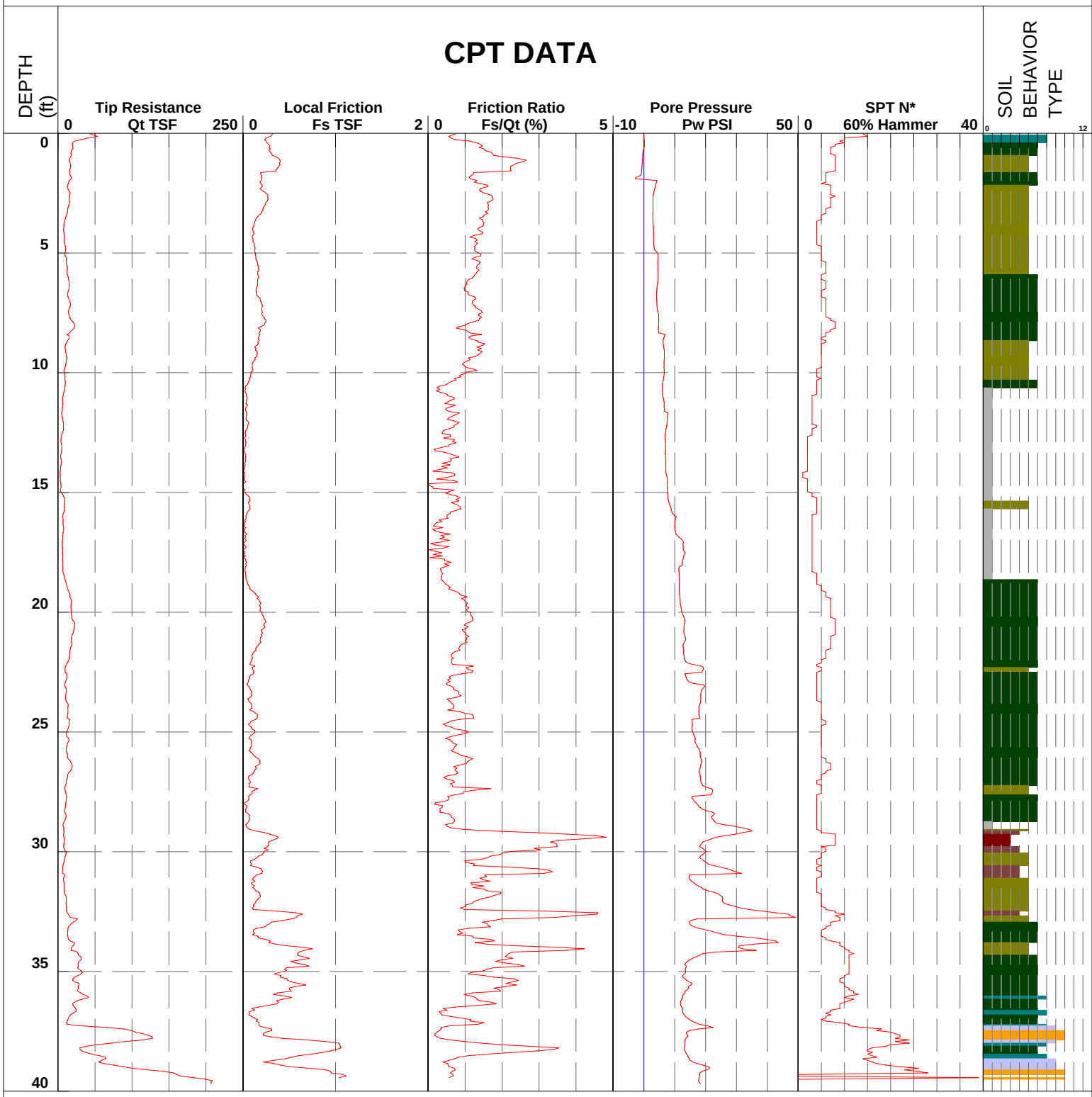
CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

09-202-C1

Electronic Filename: 09-202-C1.cpt

AECOM

09-202-C1	60095742	2/5/2009 9:42:42 AM
DTA1081	TVA-Kingston	CME-850/CAP



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-202-C1 2/5/2009 9:42:42 AM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	42.85	0.3230	0.754	-0.022	14	7	silty sand to sandy silt
0.13	53.60	0.2985	0.557	-0.003	15	7	silty sand to sandy silt
0.20	40.57	0.2493	0.615	-0.028	10	7	silty sand to sandy silt
0.26	31.91	0.2358	0.739	0.053	10	7	silty sand to sandy silt
0.33	21.92	0.2483	1.133	0.140	9	7	silty sand to sandy silt
0.39	19.89	0.2596	1.305	0.181	10	6	sandy silt to clayey silt
0.46	19.34	0.2724	1.408	0.187	8	6	sandy silt to clayey silt
0.52	19.81	0.2907	1.467	0.162	8	6	sandy silt to clayey silt
0.59	20.49	0.2843	1.388	0.000	7	6	sandy silt to clayey silt
0.66	19.47	0.2944	1.512	-0.109	7	6	sandy silt to clayey silt
0.72	18.10	0.2798	1.546	-0.200	7	6	sandy silt to clayey silt
0.79	17.60	0.2995	1.702	-0.284	7	6	sandy silt to clayey silt
0.85	17.61	0.3059	1.737	-0.337	7	6	sandy silt to clayey silt
0.92	17.90	0.3173	1.773	-0.381	8	5	clayey silt to silty clay
0.98	17.42	0.3548	2.036	-0.434	8	5	clayey silt to silty clay
1.05	15.89	0.3863	2.431	-0.434	8	5	clayey silt to silty clay
1.12	15.23	0.4007	2.632	-0.449	8	5	clayey silt to silty clay
1.18	15.64	0.4036	2.581	-0.512	8	5	clayey silt to silty clay
1.25	16.38	0.3949	2.412	-0.540	8	5	clayey silt to silty clay
1.31	17.17	0.3987	2.322	-0.609	8	5	clayey silt to silty clay
1.38	17.43	0.3888	2.231	-0.634	8	5	clayey silt to silty clay
1.44	16.87	0.3762	2.230	-0.649	8	5	clayey silt to silty clay
1.51	16.14	0.3601	2.231	-0.671	8	5	clayey silt to silty clay
1.57	15.85	0.3549	2.239	-0.727	8	5	clayey silt to silty clay
1.64	15.54	0.1907	1.227	-0.771	6	6	sandy silt to clayey silt
1.71	15.69	0.1919	1.223	-0.911	6	6	sandy silt to clayey silt
1.77	17.15	0.1998	1.165	-1.230	6	6	sandy silt to clayey silt
1.84	18.09	0.2004	1.108	-2.603	6	6	sandy silt to clayey silt
1.90	17.92	0.2043	1.141	-2.728	6	6	sandy silt to clayey silt
1.97	14.78	0.1951	1.320	4.257	6	6	sandy silt to clayey silt
2.03	14.70	0.1843	1.254	4.091	6	6	sandy silt to clayey silt
2.10	13.77	0.1932	1.404	3.923	5	6	sandy silt to clayey silt
2.17	12.97	0.2077	1.601	3.782	7	5	clayey silt to silty clay
2.23	12.83	0.2070	1.613	3.673	7	5	clayey silt to silty clay
2.30	13.03	0.1857	1.425	3.533	7	5	clayey silt to silty clay
2.36	14.17	0.1974	1.394	3.402	7	5	clayey silt to silty clay
2.43	15.62	0.2225	1.424	3.289	7	5	clayey silt to silty clay
2.49	16.46	0.2476	1.504	3.192	7	5	clayey silt to silty clay
2.56	16.08	0.2676	1.664	3.046	7	5	clayey silt to silty clay
2.62	15.47	0.2676	1.730	2.990	8	5	clayey silt to silty clay
2.69	15.29	0.2676	1.750	2.940	7	5	clayey silt to silty clay
2.76	15.38	0.2710	1.762	2.937	7	5	clayey silt to silty clay
2.82	15.45	0.2637	1.707	2.949	7	5	clayey silt to silty clay
2.89	15.47	0.2480	1.603	2.943	7	5	clayey silt to silty clay
2.95	14.99	0.2430	1.622	2.924	7	5	clayey silt to silty clay
3.02	14.50	0.2366	1.632	2.940	7	5	clayey silt to silty clay
3.08	13.70	0.2221	1.621	2.980	7	5	clayey silt to silty clay
3.15	13.22	0.2165	1.638	2.955	6	5	clayey silt to silty clay
3.22	13.19	0.2140	1.622	2.943	6	5	clayey silt to silty clay
3.28	12.84	0.1987	1.547	2.912	6	5	clayey silt to silty clay
3.35	12.16	0.1963	1.615	2.874	6	5	clayey silt to silty clay
3.41	11.47	0.1736	1.513	2.899	5	5	clayey silt to silty clay
3.48	10.88	0.1628	1.497	2.887	5	5	clayey silt to silty clay
3.54	10.10	0.1408	1.394	2.902	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	9.41	0.1375	1.462	2.958	5	5	clayey silt to silty clay
3.67	8.82	0.1302	1.476	2.943	4	5	clayey silt to silty clay
3.74	8.34	0.1258	1.509	2.965	4	5	clayey silt to silty clay
3.81	7.98	0.1189	1.490	3.005	4	5	clayey silt to silty clay
3.87	7.90	0.1179	1.492	3.033	4	5	clayey silt to silty clay
3.94	7.80	0.1077	1.381	3.061	4	5	clayey silt to silty clay
4.00	7.70	0.1034	1.343	3.136	4	5	clayey silt to silty clay
4.07	7.70	0.1072	1.393	3.152	4	5	clayey silt to silty clay
4.13	7.87	0.1167	1.483	3.146	4	5	clayey silt to silty clay
4.20	8.20	0.1195	1.457	3.177	4	5	clayey silt to silty clay
4.27	8.61	0.1068	1.240	3.217	4	5	clayey silt to silty clay
4.33	8.58	0.0969	1.128	3.208	4	5	clayey silt to silty clay
4.40	8.35	0.1070	1.282	3.199	4	5	clayey silt to silty clay
4.46	8.21	0.1088	1.325	3.180	4	5	clayey silt to silty clay
4.53	8.55	0.1081	1.265	3.108	4	5	clayey silt to silty clay
4.59	8.99	0.1203	1.337	3.146	4	5	clayey silt to silty clay
4.66	9.39	0.1216	1.296	3.239	4	5	clayey silt to silty clay
4.72	9.93	0.1242	1.251	3.274	5	5	clayey silt to silty clay
4.79	10.40	0.1320	1.270	3.317	5	5	clayey silt to silty clay
4.86	10.25	0.1288	1.257	3.501	5	5	clayey silt to silty clay
4.92	10.05	0.1272	1.266	3.895	5	5	clayey silt to silty clay
4.99	9.74	0.1322	1.357	4.341	5	5	clayey silt to silty clay
5.05	9.31	0.1334	1.433	4.597	5	5	clayey silt to silty clay
5.12	9.70	0.1378	1.420	4.606	5	5	clayey silt to silty clay
5.18	11.16	0.1403	1.257	4.587	5	5	clayey silt to silty clay
5.25	11.64	0.1386	1.191	4.544	5	5	clayey silt to silty clay
5.31	11.09	0.1475	1.330	4.506	5	5	clayey silt to silty clay
5.38	10.93	0.1538	1.407	4.478	6	5	clayey silt to silty clay
5.45	11.41	0.1582	1.387	4.494	6	5	clayey silt to silty clay
5.51	12.06	0.1605	1.330	4.538	6	5	clayey silt to silty clay
5.58	12.61	0.1652	1.310	4.544	6	5	clayey silt to silty clay
5.64	12.74	0.1672	1.312	4.528	6	5	clayey silt to silty clay
5.71	12.48	0.1715	1.374	4.531	6	5	clayey silt to silty clay
5.77	12.10	0.1608	1.329	4.544	6	5	clayey silt to silty clay
5.84	12.18	0.1590	1.305	4.566	6	5	clayey silt to silty clay
5.91	12.67	0.1609	1.270	4.562	5	6	sandy silt to clayey silt
5.97	13.39	0.1654	1.235	4.569	5	6	sandy silt to clayey silt
6.04	14.01	0.1682	1.200	4.547	5	6	sandy silt to clayey silt
6.10	14.36	0.1574	1.096	4.550	5	6	sandy silt to clayey silt
6.17	14.91	0.1580	1.060	4.525	6	6	sandy silt to clayey silt
6.23	15.07	0.1568	1.040	4.484	6	6	sandy silt to clayey silt
6.30	15.10	0.1589	1.052	4.416	6	6	sandy silt to clayey silt
6.36	15.38	0.1557	1.012	4.322	6	6	sandy silt to clayey silt
6.43	15.09	0.1493	0.989	4.216	6	6	sandy silt to clayey silt
6.50	14.79	0.1447	0.979	4.247	6	6	sandy silt to clayey silt
6.56	14.15	0.1401	0.990	4.185	5	6	sandy silt to clayey silt
6.63	13.54	0.1471	1.086	4.138	5	6	sandy silt to clayey silt
6.69	13.24	0.1430	1.080	4.094	5	6	sandy silt to clayey silt
6.76	13.21	0.1471	1.114	4.104	5	6	sandy silt to clayey silt
6.82	13.47	0.1678	1.245	4.126	5	6	sandy silt to clayey silt
6.89	14.16	0.1843	1.301	4.129	6	6	sandy silt to clayey silt
6.96	15.09	0.1880	1.246	4.157	6	6	sandy silt to clayey silt
7.02	16.01	0.1921	1.200	4.179	6	6	sandy silt to clayey silt
7.09	16.69	0.2002	1.200	4.182	6	6	sandy silt to clayey silt
7.15	16.99	0.2070	1.218	4.235	6	6	sandy silt to clayey silt
7.22	16.54	0.2099	1.269	4.229	6	6	sandy silt to clayey silt
7.28	15.73	0.2038	1.296	4.272	6	6	sandy silt to clayey silt
7.35	14.83	0.2030	1.369	4.332	6	6	sandy silt to clayey silt
7.41	14.34	0.2054	1.432	4.456	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	14.32	0.2104	1.470	4.594	6	6	sandy silt to clayey silt
7.55	14.67	0.2022	1.378	4.725	6	6	sandy silt to clayey silt
7.61	15.29	0.2093	1.369	4.750	6	6	sandy silt to clayey silt
7.68	15.79	0.2286	1.448	4.784	6	6	sandy silt to clayey silt
7.74	16.61	0.2310	1.390	4.831	7	6	sandy silt to clayey silt
7.81	18.24	0.2502	1.371	4.837	7	6	sandy silt to clayey silt
7.87	20.12	0.2460	1.222	4.831	8	6	sandy silt to clayey silt
7.94	21.52	0.2348	1.091	4.803	8	6	sandy silt to clayey silt
8.01	22.37	0.2272	1.015	4.765	8	6	sandy silt to clayey silt
8.07	22.78	0.1923	0.844	4.703	8	6	sandy silt to clayey silt
8.14	21.86	0.1674	0.766	4.706	8	6	sandy silt to clayey silt
8.20	19.73	0.1890	0.958	4.665	7	6	sandy silt to clayey silt
8.27	17.00	0.1850	1.088	4.703	7	6	sandy silt to clayey silt
8.33	15.74	0.1761	1.118	4.768	6	6	sandy silt to clayey silt
8.40	12.28	0.1780	1.450	6.887	6	6	sandy silt to clayey silt
8.46	14.95	0.1742	1.166	6.706	6	6	sandy silt to clayey silt
8.53	15.23	0.1667	1.095	6.519	5	6	sandy silt to clayey silt
8.60	14.41	0.1680	1.166	6.304	5	6	sandy silt to clayey silt
8.66	12.93	0.1716	1.327	6.195	6	5	clayey silt to silty clay
8.73	11.73	0.1603	1.367	6.216	6	5	clayey silt to silty clay
8.79	10.70	0.1643	1.536	6.260	5	5	clayey silt to silty clay
8.86	9.92	0.1458	1.470	6.323	5	5	clayey silt to silty clay
8.92	9.67	0.1278	1.322	6.426	5	5	clayey silt to silty clay
8.99	9.66	0.1385	1.435	6.522	5	5	clayey silt to silty clay
9.06	10.20	0.1370	1.344	6.563	5	5	clayey silt to silty clay
9.12	10.45	0.1527	1.461	6.607	5	5	clayey silt to silty clay
9.19	10.88	0.1528	1.405	6.632	5	5	clayey silt to silty clay
9.25	11.19	0.1518	1.356	6.632	5	5	clayey silt to silty clay
9.32	11.55	0.1487	1.287	6.628	5	5	clayey silt to silty clay
9.38	11.90	0.1297	1.091	6.619	5	5	clayey silt to silty clay
9.45	11.58	0.1317	1.138	6.560	5	5	clayey silt to silty clay
9.51	11.24	0.1184	1.054	6.538	5	5	clayey silt to silty clay
9.58	10.97	0.1063	0.969	6.504	5	5	clayey silt to silty clay
9.65	10.59	0.0986	0.931	6.532	5	5	clayey silt to silty clay
9.71	10.13	0.1004	0.991	6.525	5	5	clayey silt to silty clay
9.78	9.52	0.0985	1.035	6.482	5	5	clayey silt to silty clay
9.84	8.61	0.1052	1.222	6.575	4	5	clayey silt to silty clay
9.91	8.15	0.1076	1.320	6.557	4	5	clayey silt to silty clay
9.97	8.32	0.0861	1.035	6.541	4	5	clayey silt to silty clay
10.04	8.59	0.0866	1.009	6.557	4	5	clayey silt to silty clay
10.10	9.49	0.0806	0.849	6.513	4	5	clayey silt to silty clay
10.17	9.64	0.0851	0.882	6.454	4	5	clayey silt to silty clay
10.24	9.34	0.0673	0.720	6.373	5	5	clayey silt to silty clay
10.30	9.69	0.0733	0.757	6.294	4	6	sandy silt to clayey silt
10.37	9.95	0.0616	0.619	6.182	4	6	sandy silt to clayey silt
10.43	10.01	0.0545	0.544	6.079	4	6	sandy silt to clayey silt
10.50	9.65	0.0474	0.491	5.998	4	6	sandy silt to clayey silt
10.56	9.58	0.0286	0.298	5.976	4	6	sandy silt to clayey silt
10.63	9.35	0.0226	0.242	5.917	4	1	sensitive fine grained
10.70	9.08	0.0289	0.318	5.932	4	1	sensitive fine grained
10.76	8.53	0.0195	0.229	5.932	4	1	sensitive fine grained
10.83	7.77	0.0271	0.349	5.989	4	1	sensitive fine grained
10.89	7.22	0.0369	0.511	6.032	4	1	sensitive fine grained
10.96	6.88	0.0366	0.532	6.085	3	1	sensitive fine grained
11.02	6.33	0.0433	0.685	6.226	3	1	sensitive fine grained
11.09	6.31	0.0449	0.712	6.366	3	1	sensitive fine grained
11.15	6.43	0.0386	0.600	6.485	3	1	sensitive fine grained
11.22	6.61	0.0355	0.537	6.544	3	1	sensitive fine grained
11.29	6.82	0.0306	0.449	6.569	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	6.58	0.0484	0.735	6.541	3	1	sensitive fine grained
11.42	6.20	0.0381	0.615	6.541	3	1	sensitive fine grained
11.48	5.90	0.0291	0.493	6.582	3	1	sensitive fine grained
11.55	5.62	0.0268	0.477	6.697	3	1	sensitive fine grained
11.61	5.69	0.0322	0.567	6.731	3	1	sensitive fine grained
11.68	4.72	0.0401	0.850	7.668	3	1	sensitive fine grained
11.75	5.22	0.0388	0.743	7.680	3	1	sensitive fine grained
11.81	5.72	0.0371	0.649	7.615	3	1	sensitive fine grained
11.88	5.97	0.0336	0.563	7.605	3	1	sensitive fine grained
11.94	6.26	0.0327	0.522	7.552	3	1	sensitive fine grained
12.01	6.64	0.0460	0.693	7.524	3	1	sensitive fine grained
12.07	7.38	0.0621	0.842	7.480	3	1	sensitive fine grained
12.14	7.39	0.0572	0.774	7.471	3	1	sensitive fine grained
12.20	7.43	0.0523	0.703	7.415	4	1	sensitive fine grained
12.27	7.58	0.0526	0.693	7.262	4	1	sensitive fine grained
12.34	7.61	0.0434	0.570	7.196	3	1	sensitive fine grained
12.40	7.33	0.0316	0.432	7.112	3	1	sensitive fine grained
12.47	6.54	0.0261	0.399	7.028	3	1	sensitive fine grained
12.53	5.85	0.0222	0.380	6.965	3	1	sensitive fine grained
12.60	5.02	0.0303	0.603	6.922	3	1	sensitive fine grained
12.66	4.53	0.0276	0.609	6.916	2	1	sensitive fine grained
12.73	4.16	0.0174	0.418	6.925	2	1	sensitive fine grained
12.80	3.96	0.0285	0.719	6.959	2	1	sensitive fine grained
12.86	4.00	0.0265	0.661	6.990	2	1	sensitive fine grained
12.93	4.20	0.0316	0.753	7.022	2	1	sensitive fine grained
12.99	4.73	0.0280	0.592	7.059	2	1	sensitive fine grained
13.06	5.44	0.0299	0.550	7.072	2	1	sensitive fine grained
13.12	5.37	0.0195	0.363	7.050	2	1	sensitive fine grained
13.19	5.07	0.0082	0.163	7.028	2	1	sensitive fine grained
13.25	4.99	0.0094	0.188	6.962	2	1	sensitive fine grained
13.32	4.67	0.0207	0.442	6.965	2	1	sensitive fine grained
13.39	4.13	0.0247	0.600	6.950	2	1	sensitive fine grained
13.45	3.64	0.0262	0.721	6.987	2	1	sensitive fine grained
13.52	3.56	0.0296	0.832	7.037	2	1	sensitive fine grained
13.58	3.95	0.0236	0.598	7.100	2	1	sensitive fine grained
13.65	4.61	0.0291	0.631	7.121	2	1	sensitive fine grained
13.71	4.67	0.0275	0.588	7.097	2	1	sensitive fine grained
13.78	4.50	0.0173	0.384	7.053	2	1	sensitive fine grained
13.85	4.09	0.0243	0.594	7.078	2	1	sensitive fine grained
13.91	3.82	0.0143	0.373	7.093	2	1	sensitive fine grained
13.98	3.48	0.0178	0.512	7.087	2	1	sensitive fine grained
14.04	3.20	0.0097	0.304	7.084	2	1	sensitive fine grained
14.11	3.07	0.0040	0.131	7.109	2	1	sensitive fine grained
14.17	2.87	0.0181	0.629	7.121	1	1	sensitive fine grained
14.24	2.91	0.0212	0.728	7.265	1	1	sensitive fine grained
14.30	3.02	0.0215	0.711	7.324	1	1	sensitive fine grained
14.37	3.08	0.0152	0.492	7.480	1	1	sensitive fine grained
14.44	3.10	0.0075	0.243	7.555	2	1	sensitive fine grained
14.50	3.07	0.0217	0.708	7.599	2	1	sensitive fine grained
14.57	3.59	0.0285	0.794	7.599	2	1	sensitive fine grained
14.63	3.99	0.0001	0.002	7.561	2	1	sensitive fine grained
14.70	3.92	0.0013	0.033	7.543	2	1	sensitive fine grained
14.76	4.07	0.0048	0.118	7.615	2	1	sensitive fine grained
14.83	3.76	0.0054	0.143	7.605	2	1	sensitive fine grained
14.90	3.24	0.0230	0.708	7.558	2	1	sensitive fine grained
14.96	3.42	0.0192	0.561	7.652	2	1	sensitive fine grained
15.03	5.56	0.0264	0.475	7.658	3	1	sensitive fine grained
15.09	6.41	0.0403	0.629	7.742	3	1	sensitive fine grained
15.16	7.62	0.0599	0.786	7.767	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	8.64	0.0745	0.862	7.811	4	1	sensitive fine grained
15.29	9.10	0.0686	0.754	7.870	4	1	sensitive fine grained
15.35	9.14	0.0761	0.833	8.008	4	5	clayey silt to silty clay
15.42	9.12	0.0574	0.629	8.123	4	5	clayey silt to silty clay
15.49	8.98	0.0664	0.739	8.279	4	5	clayey silt to silty clay
15.55	8.71	0.0723	0.831	8.398	4	5	clayey silt to silty clay
15.62	8.58	0.0751	0.876	8.682	4	5	clayey silt to silty clay
15.68	8.68	0.0765	0.881	8.825	4	1	sensitive fine grained
15.75	8.66	0.0659	0.761	8.907	4	1	sensitive fine grained
15.81	8.05	0.0487	0.605	9.078	4	1	sensitive fine grained
15.88	7.05	0.0421	0.597	9.322	4	1	sensitive fine grained
15.94	6.63	0.0340	0.513	9.824	3	1	sensitive fine grained
16.01	6.20	0.0312	0.504	10.482	3	1	sensitive fine grained
16.08	6.71	0.0363	0.541	10.348	3	1	sensitive fine grained
16.14	7.12	0.0209	0.294	10.117	3	1	sensitive fine grained
16.21	6.81	0.0258	0.378	10.061	3	1	sensitive fine grained
16.27	6.90	0.0151	0.219	10.036	3	1	sensitive fine grained
16.34	6.86	0.0124	0.181	10.092	3	1	sensitive fine grained
16.40	7.17	0.0101	0.141	9.958	3	1	sensitive fine grained
16.47	7.66	0.0306	0.399	10.046	3	1	sensitive fine grained
16.54	7.77	0.0099	0.128	10.067	3	1	sensitive fine grained
16.60	7.33	0.0136	0.186	10.161	3	1	sensitive fine grained
16.67	6.91	0.0226	0.327	10.295	3	1	sensitive fine grained
16.73	6.71	0.0407	0.606	10.436	3	1	sensitive fine grained
16.80	6.40	0.0228	0.355	10.754	3	1	sensitive fine grained
16.86	6.32	0.0281	0.444	11.344	3	1	sensitive fine grained
16.93	6.39	0.0201	0.314	12.027	3	1	sensitive fine grained
16.99	6.03	0.0348	0.577	12.570	3	1	sensitive fine grained
17.06	5.94	0.0221	0.372	12.789	3	1	sensitive fine grained
17.13	6.00	0.0044	0.073	12.736	3	1	sensitive fine grained
17.19	5.85	0.0118	0.202	12.655	3	1	sensitive fine grained
17.26	6.01	0.0336	0.559	12.764	3	1	sensitive fine grained
17.32	6.04	0.0252	0.417	12.761	3	1	sensitive fine grained
17.39	6.30	0.0011	0.017	12.748	3	1	sensitive fine grained
17.45	6.09	0.0119	0.195	13.001	3	1	sensitive fine grained
17.52	6.05	0.0222	0.368	13.366	3	1	sensitive fine grained
17.59	6.39	0.0093	0.146	13.129	3	1	sensitive fine grained
17.65	6.42	0.0252	0.392	12.917	3	1	sensitive fine grained
17.72	6.41	0.0032	0.050	12.795	3	1	sensitive fine grained
17.78	6.31	0.0281	0.446	12.686	3	1	sensitive fine grained
17.85	6.30	0.0283	0.450	12.598	3	1	sensitive fine grained
17.91	6.38	0.0395	0.619	12.480	3	1	sensitive fine grained
17.98	6.53	0.0290	0.443	12.352	3	1	sensitive fine grained
18.04	6.59	0.0371	0.564	12.324	3	1	sensitive fine grained
18.11	6.69	0.0288	0.430	11.372	3	1	sensitive fine grained
18.18	6.71	0.0221	0.329	11.325	3	1	sensitive fine grained
18.24	6.45	0.0225	0.349	11.325	3	1	sensitive fine grained
18.31	6.75	0.0238	0.352	11.356	3	1	sensitive fine grained
18.37	7.21	0.0285	0.395	11.419	4	1	sensitive fine grained
18.44	7.97	0.0297	0.372	11.444	4	1	sensitive fine grained
18.50	8.45	0.0309	0.366	11.434	4	1	sensitive fine grained
18.57	9.03	0.0323	0.358	11.431	4	1	sensitive fine grained
18.64	9.62	0.0334	0.347	11.490	4	6	sandy silt to clayey silt
18.70	10.27	0.0423	0.412	11.500	4	6	sandy silt to clayey silt
18.77	10.83	0.0483	0.446	11.500	4	6	sandy silt to clayey silt
18.83	11.40	0.0546	0.479	11.484	4	6	sandy silt to clayey silt
18.90	11.94	0.0646	0.542	11.456	5	6	sandy silt to clayey silt
18.96	12.47	0.0745	0.598	11.447	5	6	sandy silt to clayey silt
19.03	13.18	0.0740	0.561	11.469	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	14.08	0.0958	0.680	11.484	5	6	sandy silt to clayey silt
19.16	14.84	0.1185	0.798	11.537	6	6	sandy silt to clayey silt
19.23	15.72	0.1336	0.850	11.559	6	6	sandy silt to clayey silt
19.29	16.18	0.1441	0.891	11.553	6	6	sandy silt to clayey silt
19.36	16.14	0.1696	1.051	11.650	6	6	sandy silt to clayey silt
19.42	16.93	0.1533	0.905	11.715	7	6	sandy silt to clayey silt
19.49	17.82	0.1732	0.972	11.753	7	6	sandy silt to clayey silt
19.55	17.88	0.1798	1.006	11.768	7	6	sandy silt to clayey silt
19.62	18.17	0.1937	1.066	11.750	7	6	sandy silt to clayey silt
19.69	17.67	0.1823	1.032	11.824	7	6	sandy silt to clayey silt
19.75	17.56	0.1825	1.039	11.940	7	6	sandy silt to clayey silt
19.82	17.47	0.1924	1.101	12.077	7	6	sandy silt to clayey silt
19.88	17.83	0.1858	1.042	12.140	7	6	sandy silt to clayey silt
19.95	17.64	0.1852	1.050	12.221	7	6	sandy silt to clayey silt
20.01	17.99	0.2072	1.152	12.327	7	6	sandy silt to clayey silt
20.08	18.14	0.2061	1.137	12.570	7	6	sandy silt to clayey silt
20.14	18.66	0.2179	1.168	12.717	7	6	sandy silt to clayey silt
20.21	18.68	0.2233	1.195	12.973	7	6	sandy silt to clayey silt
20.28	19.08	0.2297	1.204	13.129	8	6	sandy silt to clayey silt
20.34	20.01	0.2408	1.204	13.329	8	6	sandy silt to clayey silt
20.41	21.81	0.2488	1.140	13.310	8	6	sandy silt to clayey silt
20.47	22.74	0.2312	1.017	13.132	8	6	sandy silt to clayey silt
20.54	22.71	0.2232	0.983	13.048	8	6	sandy silt to clayey silt
20.60	22.05	0.2378	1.079	12.973	8	6	sandy silt to clayey silt
20.67	21.73	0.2259	1.040	12.979	8	6	sandy silt to clayey silt
20.73	21.28	0.1977	0.929	12.976	8	6	sandy silt to clayey silt
20.80	21.12	0.2009	0.951	12.914	8	6	sandy silt to clayey silt
20.87	20.56	0.2093	1.018	12.973	8	6	sandy silt to clayey silt
20.93	19.28	0.1971	1.023	13.091	8	6	sandy silt to clayey silt
21.00	18.74	0.2063	1.101	13.266	7	6	sandy silt to clayey silt
21.06	18.36	0.1900	1.035	13.453	7	6	sandy silt to clayey silt
21.13	18.06	0.1883	1.043	13.538	7	6	sandy silt to clayey silt
21.19	18.33	0.1860	1.015	13.350	7	6	sandy silt to clayey silt
21.26	18.35	0.1935	1.054	13.020	7	6	sandy silt to clayey silt
21.33	18.82	0.1738	0.923	12.776	7	6	sandy silt to clayey silt
21.39	18.55	0.1604	0.865	12.689	7	6	sandy silt to clayey silt
21.46	17.37	0.1480	0.852	12.714	7	6	sandy silt to clayey silt
21.52	16.68	0.1376	0.825	12.807	7	6	sandy silt to clayey silt
21.59	16.15	0.1396	0.864	12.904	6	6	sandy silt to clayey silt
21.65	16.22	0.1170	0.721	12.898	6	6	sandy silt to clayey silt
21.72	16.05	0.1056	0.658	12.860	6	6	sandy silt to clayey silt
21.78	15.84	0.0985	0.622	12.938	6	6	sandy silt to clayey silt
21.85	15.45	0.0979	0.633	13.045	6	6	sandy silt to clayey silt
21.92	15.39	0.1057	0.687	13.017	6	6	sandy silt to clayey silt
21.98	14.63	0.0919	0.628	13.185	5	6	sandy silt to clayey silt
22.05	13.73	0.0885	0.644	13.528	5	6	sandy silt to clayey silt
22.11	12.51	0.0795	0.636	14.112	5	6	sandy silt to clayey silt
22.18	11.05	0.0739	0.669	15.835	4	6	sandy silt to clayey silt
22.24	10.47	0.1280	1.223	18.459	4	6	sandy silt to clayey silt
22.31	9.84	0.1013	1.030	19.308	5	5	clayey silt to silty clay
22.38	9.70	0.1040	1.072	19.270	5	5	clayey silt to silty clay
22.44	9.52	0.1157	1.216	18.968	5	5	clayey silt to silty clay
22.51	9.67	0.1152	1.192	18.718	4	6	sandy silt to clayey silt
22.57	11.99	0.1101	0.918	13.310	4	6	sandy silt to clayey silt
22.64	12.13	0.0789	0.651	13.503	4	6	sandy silt to clayey silt
22.70	12.16	0.0684	0.562	13.647	4	6	sandy silt to clayey silt
22.77	12.07	0.0730	0.605	13.790	4	6	sandy silt to clayey silt
22.83	11.09	0.0586	0.529	14.071	4	6	sandy silt to clayey silt
22.90	10.10	0.0602	0.595	14.486	4	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	9.45	0.0469	0.497	16.037	4	6	sandy silt to clayey silt
23.03	9.11	0.0469	0.515	19.292	4	6	sandy silt to clayey silt
23.10	9.74	0.0627	0.643	19.739	4	6	sandy silt to clayey silt
23.16	10.64	0.0736	0.691	19.295	4	6	sandy silt to clayey silt
23.23	11.26	0.0777	0.690	18.852	4	6	sandy silt to clayey silt
23.29	11.49	0.0937	0.815	18.621	4	6	sandy silt to clayey silt
23.36	11.08	0.0926	0.836	18.512	4	6	sandy silt to clayey silt
23.43	10.73	0.0889	0.829	18.428	4	6	sandy silt to clayey silt
23.49	10.40	0.0928	0.892	18.431	4	6	sandy silt to clayey silt
23.56	10.26	0.0773	0.754	18.465	4	6	sandy silt to clayey silt
23.62	10.23	0.0526	0.514	18.447	4	6	sandy silt to clayey silt
23.69	10.78	0.0602	0.558	18.431	4	6	sandy silt to clayey silt
23.75	11.81	0.0719	0.609	18.365	5	6	sandy silt to clayey silt
23.82	13.53	0.0880	0.650	18.216	5	6	sandy silt to clayey silt
23.88	13.86	0.0971	0.701	17.963	5	6	sandy silt to clayey silt
23.95	13.56	0.0925	0.682	17.835	5	6	sandy silt to clayey silt
24.02	13.49	0.0928	0.688	17.810	5	6	sandy silt to clayey silt
24.08	13.39	0.0710	0.530	17.832	5	6	sandy silt to clayey silt
24.15	13.52	0.1151	0.851	17.785	5	6	sandy silt to clayey silt
24.21	13.55	0.1332	0.983	17.807	5	6	sandy silt to clayey silt
24.28	13.19	0.1595	1.209	17.807	5	6	sandy silt to clayey silt
24.34	12.62	0.1537	1.218	17.897	5	6	sandy silt to clayey silt
24.41	12.48	0.1541	1.235	18.172	5	6	sandy silt to clayey silt
24.48	15.95	0.1359	0.852	15.591	5	6	sandy silt to clayey silt
24.54	15.38	0.0936	0.609	15.591	6	6	sandy silt to clayey silt
24.61	14.90	0.0816	0.548	15.638	6	6	sandy silt to clayey silt
24.67	14.81	0.0617	0.416	15.716	6	6	sandy silt to clayey silt
24.74	14.94	0.0728	0.487	15.654	5	6	sandy silt to clayey silt
24.80	14.19	0.0921	0.649	15.616	5	6	sandy silt to clayey silt
24.87	13.37	0.0934	0.699	15.579	5	6	sandy silt to clayey silt
24.93	12.64	0.1251	0.990	15.635	5	6	sandy silt to clayey silt
25.00	12.06	0.1305	1.082	15.863	5	6	sandy silt to clayey silt
25.07	11.53	0.1158	1.004	16.065	5	6	sandy silt to clayey silt
25.13	11.20	0.0864	0.772	16.181	5	6	sandy silt to clayey silt
25.20	12.07	0.0738	0.611	16.474	5	6	sandy silt to clayey silt
25.26	14.00	0.0658	0.470	16.649	5	6	sandy silt to clayey silt
25.33	14.94	0.0876	0.586	16.599	5	6	sandy silt to clayey silt
25.39	14.25	0.0913	0.641	16.552	5	6	sandy silt to clayey silt
25.46	13.11	0.0876	0.668	16.730	5	6	sandy silt to clayey silt
25.52	12.57	0.0974	0.775	16.964	5	6	sandy silt to clayey silt
25.59	12.04	0.0886	0.735	17.248	5	6	sandy silt to clayey silt
25.66	11.29	0.0787	0.697	17.567	5	6	sandy silt to clayey silt
25.72	11.25	0.0771	0.685	17.866	5	6	sandy silt to clayey silt
25.79	11.06	0.0692	0.626	18.113	5	6	sandy silt to clayey silt
25.85	11.70	0.0856	0.732	18.269	5	6	sandy silt to clayey silt
25.92	12.63	0.1046	0.828	18.284	5	6	sandy silt to clayey silt
25.98	12.92	0.1170	0.905	18.244	5	6	sandy silt to clayey silt
26.05	12.72	0.1390	1.093	18.300	5	6	sandy silt to clayey silt
26.12	13.81	0.1662	1.203	18.553	6	6	sandy silt to clayey silt
26.18	16.07	0.1781	1.108	18.702	6	6	sandy silt to clayey silt
26.25	17.31	0.1836	1.060	18.690	6	6	sandy silt to clayey silt
26.31	17.92	0.1857	1.036	18.593	7	6	sandy silt to clayey silt
26.38	19.09	0.1657	0.868	18.437	7	6	sandy silt to clayey silt
26.44	19.18	0.1330	0.694	18.344	7	6	sandy silt to clayey silt
26.51	18.74	0.1451	0.775	18.234	7	6	sandy silt to clayey silt
26.57	18.12	0.1315	0.726	18.069	7	6	sandy silt to clayey silt
26.64	16.38	0.1249	0.763	17.972	6	6	sandy silt to clayey silt
26.71	14.26	0.1148	0.805	18.007	6	6	sandy silt to clayey silt
26.77	13.30	0.0986	0.741	18.163	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	13.03	0.0662	0.508	18.228	5	6	sandy silt to clayey silt
26.90	12.99	0.0559	0.430	18.334	5	6	sandy silt to clayey silt
26.97	11.94	0.0622	0.521	18.372	5	6	sandy silt to clayey silt
27.03	11.22	0.0751	0.669	18.415	4	6	sandy silt to clayey silt
27.10	11.35	0.0816	0.719	18.506	4	6	sandy silt to clayey silt
27.17	11.02	0.0666	0.605	18.737	4	6	sandy silt to clayey silt
27.23	10.25	0.0679	0.662	19.043	5	5	clayey silt to silty clay
27.30	9.40	0.0626	0.666	19.976	5	5	clayey silt to silty clay
27.36	9.43	0.1596	1.692	21.701	5	5	clayey silt to silty clay
27.43	9.70	0.1238	1.276	22.319	5	5	clayey silt to silty clay
27.49	10.06	0.0974	0.969	22.238	5	5	clayey silt to silty clay
27.56	10.56	0.0999	0.946	22.067	5	5	clayey silt to silty clay
27.62	11.12	0.0795	0.715	21.726	4	6	sandy silt to clayey silt
27.69	11.59	0.0614	0.530	15.507	4	6	sandy silt to clayey silt
27.76	11.41	0.0644	0.564	15.572	4	6	sandy silt to clayey silt
27.82	11.09	0.0609	0.549	15.975	4	6	sandy silt to clayey silt
27.89	10.98	0.0513	0.468	16.324	4	6	sandy silt to clayey silt
27.95	10.78	0.0219	0.203	16.830	4	6	sandy silt to clayey silt
28.02	10.56	0.0180	0.170	17.248	4	6	sandy silt to clayey silt
28.08	10.13	0.0401	0.396	17.694	4	6	sandy silt to clayey silt
28.15	9.85	0.0375	0.380	18.222	4	6	sandy silt to clayey silt
28.22	9.40	0.0295	0.314	18.930	4	6	sandy silt to clayey silt
28.28	9.07	0.0302	0.333	20.126	4	6	sandy silt to clayey silt
28.35	9.04	0.0281	0.311	22.138	4	6	sandy silt to clayey silt
28.41	10.16	0.0564	0.555	22.940	4	6	sandy silt to clayey silt
28.48	11.20	0.0701	0.626	22.394	4	6	sandy silt to clayey silt
28.54	10.82	0.0668	0.618	21.901	4	6	sandy silt to clayey silt
28.61	10.28	0.0699	0.680	22.048	4	6	sandy silt to clayey silt
28.67	9.61	0.0694	0.722	22.563	4	6	sandy silt to clayey silt
28.74	8.40	0.0595	0.708	23.000	4	1	sensitive fine grained
28.81	7.40	0.0495	0.669	23.561	4	1	sensitive fine grained
28.87	6.57	0.0308	0.468	25.815	4	1	sensitive fine grained
28.94	7.03	0.0359	0.511	29.201	4	1	sensitive fine grained
29.00	7.75	0.0484	0.625	32.090	4	1	sensitive fine grained
29.07	7.77	0.0747	0.962	34.075	4	5	clayey silt to silty clay
29.13	8.06	0.1386	1.720	35.102	5	4	silty clay to clay
29.20	7.98	0.2290	2.871	32.115	5	4	silty clay to clay
29.27	7.72	0.2894	3.750	29.697	8	3	clay
29.33	7.64	0.3469	4.542	26.354	8	3	clay
29.40	7.96	0.3834	4.814	23.380	8	3	clay
29.46	8.58	0.3621	4.221	22.014	8	3	clay
29.53	8.88	0.3135	3.531	20.562	8	3	clay
29.59	8.40	0.2782	3.310	19.102	8	3	clay
29.66	7.90	0.2732	3.457	18.734	8	3	clay
29.72	7.98	0.2779	3.482	18.225	8	3	clay
29.79	7.69	0.2680	3.484	18.078	5	4	silty clay to clay
29.86	8.03	0.2308	2.875	19.068	6	4	silty clay to clay
29.92	8.89	0.2704	3.040	19.548	6	4	silty clay to clay
29.99	10.19	0.2320	2.277	20.116	6	4	silty clay to clay
30.05	10.91	0.2202	2.018	19.695	5	5	clayey silt to silty clay
30.12	10.88	0.2109	1.938	19.077	5	5	clayey silt to silty clay
30.18	9.89	0.1667	1.685	18.294	5	5	clayey silt to silty clay
30.25	9.23	0.1481	1.606	18.088	5	5	clayey silt to silty clay
30.31	8.75	0.1257	1.436	18.777	4	5	clayey silt to silty clay
30.38	8.48	0.0840	0.991	19.361	4	5	clayey silt to silty clay
30.45	7.86	0.0804	1.022	20.310	4	5	clayey silt to silty clay
30.51	7.13	0.0897	1.259	20.815	4	5	clayey silt to silty clay
30.58	6.82	0.0834	1.223	22.482	5	4	silty clay to clay
30.64	6.54	0.1392	2.130	24.707	4	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	6.52	0.1939	2.972	27.044	4	4	silty clay to clay
30.77	6.32	0.2070	3.277	28.467	4	4	silty clay to clay
30.84	6.25	0.2099	3.358	29.800	5	4	silty clay to clay
30.91	6.42	0.2013	3.136	31.607	5	4	silty clay to clay
30.97	9.44	0.1448	1.533	14.911	5	4	silty clay to clay
31.04	8.24	0.1304	1.582	14.621	5	4	silty clay to clay
31.10	7.66	0.1081	1.410	14.614	4	5	clayey silt to silty clay
31.17	7.20	0.1073	1.490	14.954	4	5	clayey silt to silty clay
31.23	7.73	0.1297	1.679	15.448	4	5	clayey silt to silty clay
31.30	8.07	0.0932	1.155	16.246	4	5	clayey silt to silty clay
31.36	8.24	0.0972	1.180	16.780	4	5	clayey silt to silty clay
31.43	8.16	0.1227	1.503	17.688	4	5	clayey silt to silty clay
31.50	8.61	0.1049	1.218	18.699	4	5	clayey silt to silty clay
31.56	8.35	0.1273	1.524	19.199	4	5	clayey silt to silty clay
31.63	8.61	0.1364	1.583	20.709	4	5	clayey silt to silty clay
31.69	8.74	0.1717	1.964	22.841	4	5	clayey silt to silty clay
31.76	9.24	0.1814	1.963	23.992	5	5	clayey silt to silty clay
31.82	10.36	0.1857	1.793	24.729	5	5	clayey silt to silty clay
31.89	11.22	0.1883	1.678	25.434	5	5	clayey silt to silty clay
31.96	11.30	0.1660	1.470	25.596	5	5	clayey silt to silty clay
32.02	11.17	0.1508	1.350	25.387	5	5	clayey silt to silty clay
32.09	11.33	0.1395	1.232	25.518	5	5	clayey silt to silty clay
32.15	10.86	0.1304	1.201	25.955	5	5	clayey silt to silty clay
32.22	11.11	0.1137	1.024	27.518	5	5	clayey silt to silty clay
32.28	11.63	0.1188	1.021	29.575	5	5	clayey silt to silty clay
32.35	11.50	0.1000	0.870	31.163	6	5	clayey silt to silty clay
32.41	11.59	0.1126	0.971	34.219	6	5	clayey silt to silty clay
32.48	11.55	0.3679	3.186	38.475	8	4	silty clay to clay
32.55	12.34	0.5672	4.595	42.595	8	4	silty clay to clay
32.61	14.03	0.6406	4.566	46.989	10	4	silty clay to clay
32.68	14.98	0.5902	3.940	47.307	8	5	clayey silt to silty clay
32.74	16.94	0.5772	3.407	49.183	9	5	clayey silt to silty clay
32.81	26.15	0.5177	1.980	17.014	9	5	clayey silt to silty clay
32.87	24.25	0.4288	1.768	15.201	9	5	clayey silt to silty clay
32.94	20.74	0.3050	1.471	14.699	7	6	sandy silt to clayey silt
33.01	18.19	0.2901	1.595	14.827	7	6	sandy silt to clayey silt
33.07	15.77	0.2556	1.621	15.320	7	6	sandy silt to clayey silt
33.14	14.27	0.2410	1.688	16.321	6	6	sandy silt to clayey silt
33.20	13.54	0.1445	1.067	17.835	6	6	sandy silt to clayey silt
33.27	13.61	0.1108	0.814	20.247	5	6	sandy silt to clayey silt
33.33	12.96	0.1109	0.855	22.207	5	6	sandy silt to clayey silt
33.40	13.18	0.1237	0.938	24.179	5	6	sandy silt to clayey silt
33.46	12.91	0.1021	0.791	26.180	5	6	sandy silt to clayey silt
33.53	13.25	0.1609	1.214	30.227	5	6	sandy silt to clayey silt
33.60	13.75	0.1680	1.222	35.767	6	6	sandy silt to clayey silt
33.66	14.39	0.2443	1.697	39.730	6	6	sandy silt to clayey silt
33.73	16.48	0.2963	1.798	42.719	7	6	sandy silt to clayey silt
33.79	22.00	0.2793	1.270	43.465	9	5	clayey silt to silty clay
33.86	22.12	0.3489	1.578	35.604	9	5	clayey silt to silty clay
33.92	20.14	0.4684	2.326	30.911	9	5	clayey silt to silty clay
33.99	18.59	0.6534	3.514	30.517	10	5	clayey silt to silty clay
34.06	17.69	0.7469	4.222	31.922	10	5	clayey silt to silty clay
34.12	17.73	0.6623	3.735	36.378	11	5	clayey silt to silty clay
34.19	26.43	0.6041	2.285	23.337	11	5	clayey silt to silty clay
34.25	27.04	0.5919	2.189	19.258	12	5	clayey silt to silty clay
34.32	27.78	0.5903	2.124	17.953	11	6	sandy silt to clayey silt
34.38	30.78	0.6418	2.085	17.073	11	6	sandy silt to clayey silt
34.45	31.31	0.7177	2.292	15.760	11	6	sandy silt to clayey silt
34.51	31.33	0.6195	1.977	14.802	11	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	28.36	0.5182	1.827	14.134	11	6	sandy silt to clayey silt
34.65	27.21	0.5640	2.073	13.600	11	6	sandy silt to clayey silt
34.71	27.28	0.6651	2.438	13.254	11	6	sandy silt to clayey silt
34.78	27.38	0.7132	2.605	13.772	11	6	sandy silt to clayey silt
34.84	26.74	0.4733	1.770	13.578	11	6	sandy silt to clayey silt
34.91	28.18	0.4497	1.596	13.435	11	6	sandy silt to clayey silt
34.97	31.35	0.4717	1.504	13.407	11	6	sandy silt to clayey silt
35.04	32.97	0.3852	1.168	13.541	11	6	sandy silt to clayey silt
35.10	31.08	0.3380	1.087	12.995	11	6	sandy silt to clayey silt
35.17	27.07	0.4092	1.512	12.589	10	6	sandy silt to clayey silt
35.24	22.78	0.4053	1.779	12.630	10	6	sandy silt to clayey silt
35.30	20.48	0.4750	2.319	13.210	9	6	sandy silt to clayey silt
35.37	19.83	0.4837	2.440	13.878	9	6	sandy silt to clayey silt
35.43	22.84	0.5223	2.286	14.720	9	6	sandy silt to clayey silt
35.50	28.36	0.5974	2.106	15.650	10	6	sandy silt to clayey silt
35.56	28.54	0.6810	2.386	15.235	10	6	sandy silt to clayey silt
35.63	26.97	0.5638	2.090	14.387	10	6	sandy silt to clayey silt
35.70	28.09	0.5000	1.780	14.530	11	6	sandy silt to clayey silt
35.76	26.42	0.5076	1.921	14.040	11	6	sandy silt to clayey silt
35.83	26.49	0.5202	1.964	13.354	12	6	sandy silt to clayey silt
35.89	30.94	0.3727	1.205	13.279	12	6	sandy silt to clayey silt
35.96	33.72	0.3287	0.975	12.782	13	6	sandy silt to clayey silt
36.02	39.10	0.4479	1.146	12.474	11	7	silty sand to sandy silt
36.09	41.33	0.5289	1.280	12.633	10	7	silty sand to sandy silt
36.15	33.09	0.4366	1.319	12.236	12	6	sandy silt to clayey silt
36.22	26.08	0.3626	1.390	11.987	11	6	sandy silt to clayey silt
36.29	22.34	0.3839	1.718	11.859	10	6	sandy silt to clayey silt
36.35	19.85	0.3663	1.846	11.874	9	6	sandy silt to clayey silt
36.42	20.43	0.2775	1.358	11.874	9	6	sandy silt to clayey silt
36.48	22.36	0.1644	0.735	12.243	9	6	sandy silt to clayey silt
36.55	23.84	0.0968	0.406	12.614	9	6	sandy silt to clayey silt
36.61	24.81	0.1258	0.507	12.564	7	7	silty sand to sandy silt
36.68	24.06	0.0708	0.294	12.555	7	7	silty sand to sandy silt
36.75	20.10	0.0699	0.348	12.723	6	7	silty sand to sandy silt
36.81	16.85	0.0634	0.376	13.038	7	6	sandy silt to clayey silt
36.88	15.17	0.0914	0.603	13.413	6	6	sandy silt to clayey silt
36.94	14.11	0.1223	0.867	14.049	6	6	sandy silt to clayey silt
37.01	13.53	0.1572	1.162	14.736	5	6	sandy silt to clayey silt
37.07	12.55	0.1419	1.130	15.635	6	6	sandy silt to clayey silt
37.14	11.47	0.1737	1.514	16.708	9	6	sandy silt to clayey silt
37.20	12.76	0.1720	1.348	18.007	11	7	silty sand to sandy silt
37.27	29.12	0.1729	0.594	20.544	11	8	sand to silty sand
37.34	66.45	0.2311	0.348	22.425	14	8	sand to silty sand
37.40	88.75	0.3087	0.348	17.723	18	8	sand to silty sand
37.47	99.62	0.3110	0.312	14.851	17	9	sand
37.53	104.60	0.2459	0.235	13.775	20	9	sand
37.60	114.47	0.2180	0.190	13.844	21	9	sand
37.66	121.91	0.2204	0.181	14.096	22	9	sand
37.73	127.51	0.3004	0.236	14.140	22	9	sand
37.80	127.30	0.4291	0.337	13.485	21	9	sand
37.86	114.49	0.6938	0.606	13.357	24	8	sand to silty sand
37.93	90.94	0.8907	0.979	13.222	21	8	sand to silty sand
37.99	72.83	1.0348	1.421	13.216	24	7	silty sand to sandy silt
38.06	53.16	1.0470	1.970	13.232	20	7	silty sand to sandy silt
38.12	39.03	1.0502	2.691	13.179	19	6	sandy silt to clayey silt
38.19	29.94	1.0590	3.537	13.123	16	6	sandy silt to clayey silt
38.25	29.82	1.0094	3.385	13.116	15	6	sandy silt to clayey silt
38.32	32.18	0.9491	2.949	13.279	15	6	sandy silt to clayey silt
38.39	37.93	0.8530	2.249	13.541	16	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
38.45	45.60	0.7427	1.629	13.825	15	7	silty sand to sandy silt
38.52	55.96	0.6037	1.079	14.143	16	7	silty sand to sandy silt
38.58	63.68	0.5240	0.823	14.411	17	7	silty sand to sandy silt
38.65	64.32	0.4615	0.717	14.727	14	8	sand to silty sand
38.71	59.03	0.3327	0.564	15.017	15	8	sand to silty sand
38.78	55.05	0.2226	0.404	15.744	16	8	sand to silty sand
38.85	61.70	0.3304	0.536	17.264	17	8	sand to silty sand
38.91	75.62	0.4082	0.540	19.161	19	8	sand to silty sand
38.98	87.73	0.5025	0.573	20.903	22	8	sand to silty sand
39.04	101.12	0.7195	0.711	21.318	26	8	sand to silty sand
39.11	121.03	0.8952	0.740	20.335	23	9	sand
39.17	143.23	0.9452	0.660	18.846	26	9	sand
39.24	156.44	0.9544	0.610	18.216	28	9	sand
39.30	160.68	1.0820	0.673	18.032	0	0	<out of range>
39.37	165.62	1.1171	0.675	18.103	0	0	<out of range>
39.44	183.77	1.0361	0.564	17.847	39	9	sand
39.50	199.93	-32768	-32768	17.791	0	0	<out of range>
39.57	208.61	-32768	-32768	17.670	0	0	<out of range>
39.63	206.71	-32768	-32768	18.013	0	0	<out of range>
39.70	207.01	-32768	-32768	18.365	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

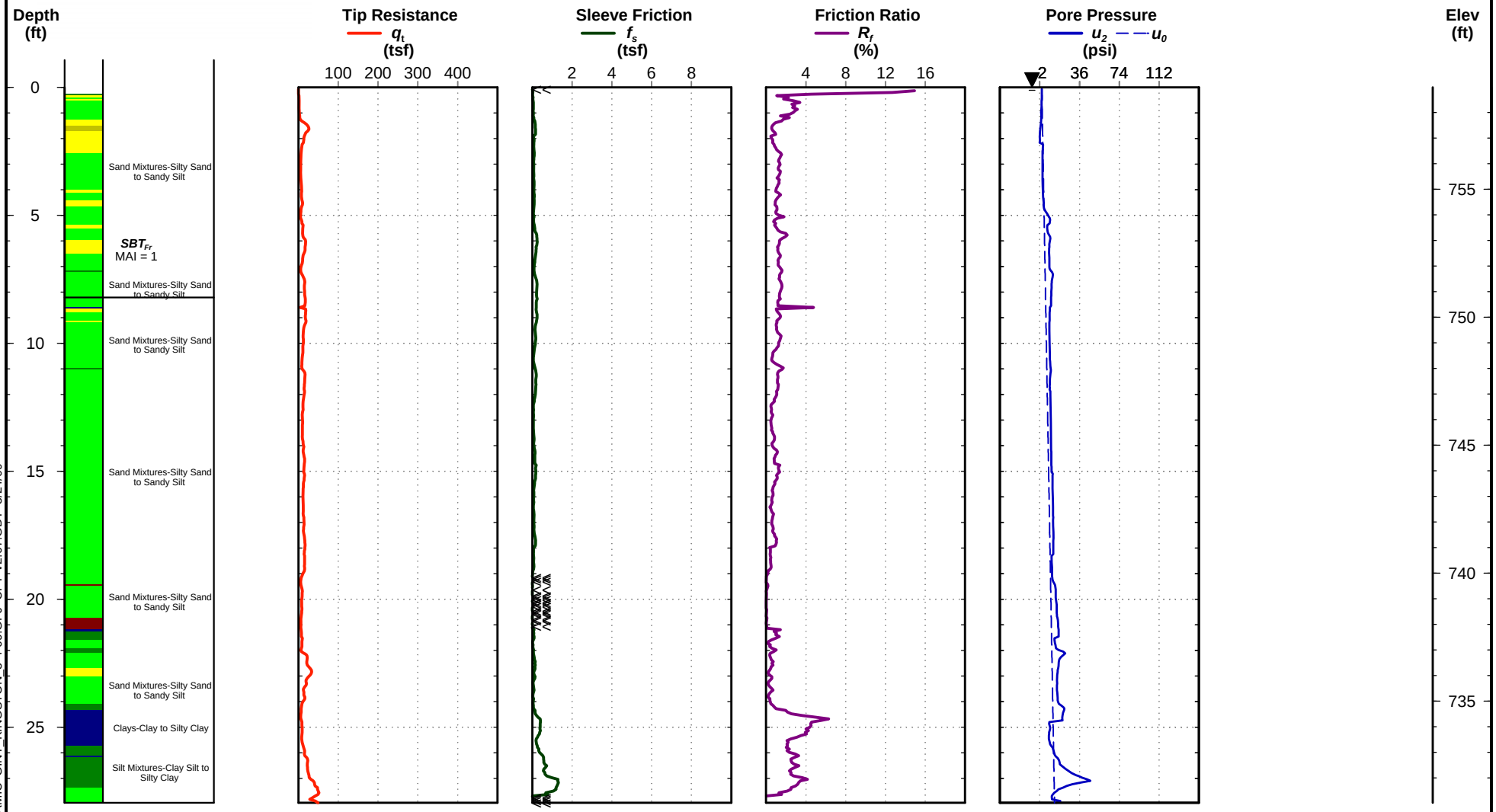
TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) *Cone Penetration Test* **09-203-C1**

Project No: 60095742

Date: Feb. 3, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850/CAP

Northing: 558104.19
Easting: 2440604.56
Elevation: 758.98 NGVD

Total Depth: 28.0 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

09-203-C1

Electronic Filename: 09-203-C1.cpt

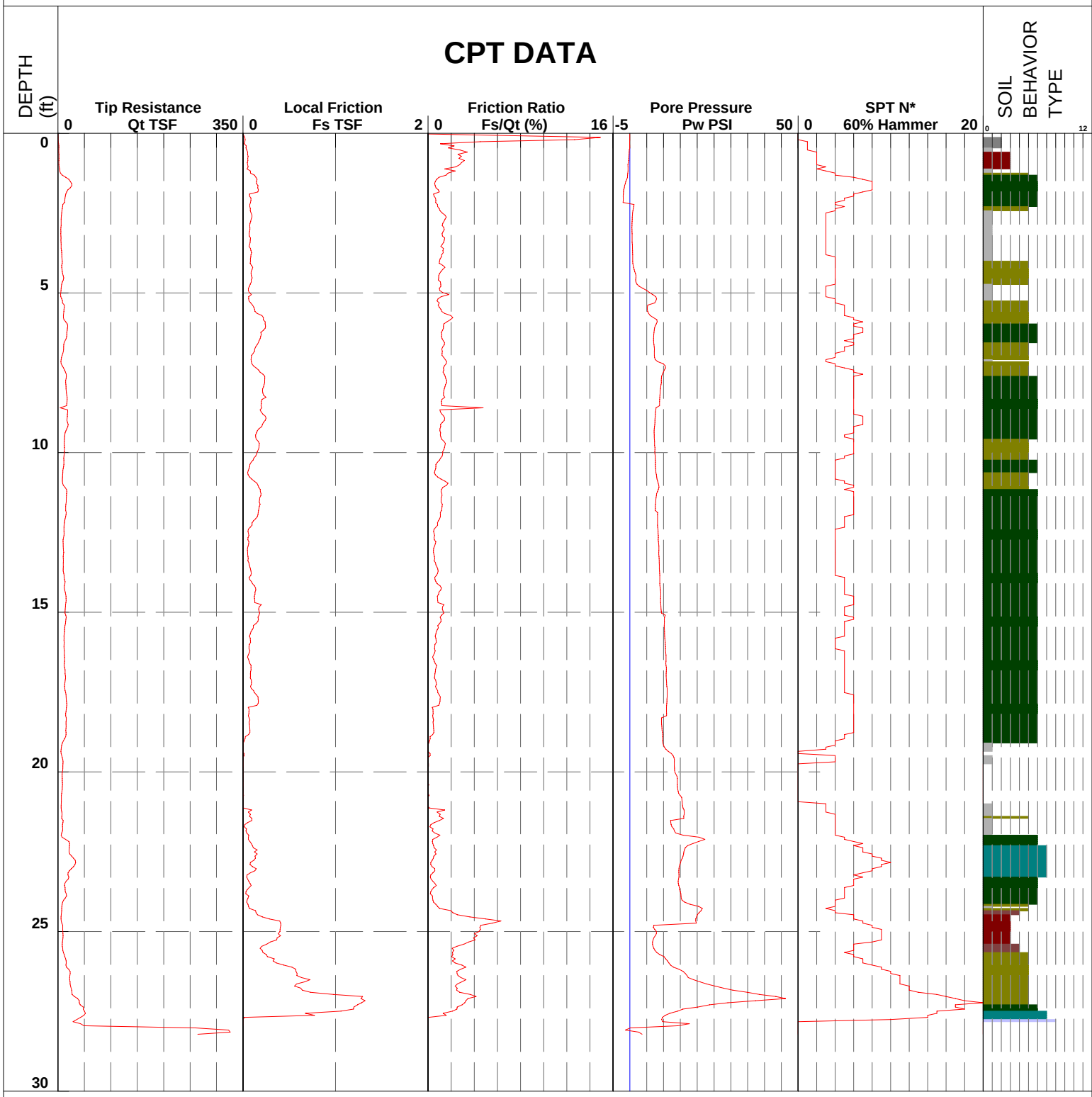
AECOM

IN PROGRESS

09-203-C1 | 60095742 | 2/3/2009 11:16:25 AM

DTA1081 | TVA-Kingston | CME-850/CAP

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Data File:09-203-C1 2/3/2009 11:16:25 AM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.07	-0.0024	-3.425	-0.066	0	0	<out of range>
0.13	0.14	0.0203	14.906	-0.056	0	2	organic material
0.20	0.19	0.0237	12.676	-0.069	0	2	organic material
0.26	0.42	0.0189	4.518	-0.081	1	2	organic material
0.33	1.25	0.0134	1.071	-0.097	1	2	organic material
0.39	1.58	0.0356	2.252	-0.069	1	2	organic material
0.46	1.79	0.0312	1.747	-0.062	1	1	sensitive fine grained
0.52	1.47	0.0405	2.753	-0.184	1	1	sensitive fine grained
0.59	1.51	0.0513	3.393	-0.240	2	3	clay
0.66	1.89	0.0488	2.586	-0.265	2	3	clay
0.72	1.92	0.0554	2.884	-0.312	2	3	clay
0.79	1.94	0.0517	2.664	-0.331	2	3	clay
0.85	1.68	0.0528	3.143	-0.393	2	3	clay
0.92	1.61	0.0467	2.896	-0.484	2	3	clay
0.98	1.83	0.0498	2.728	-0.593	2	3	clay
1.05	2.30	0.0550	2.394	-0.571	3	3	clay
1.12	3.14	0.0453	1.439	-0.562	2	1	sensitive fine grained
1.18	3.42	0.0799	2.335	-0.562	3	1	sensitive fine grained
1.25	4.69	0.0808	1.722	-0.624	4	5	clayey silt to silty clay
1.31	7.98	0.1248	1.563	-0.690	4	6	sandy silt to clayey silt
1.38	14.82	0.1398	0.943	-0.721	6	6	sandy silt to clayey silt
1.44	20.49	0.1524	0.744	-0.921	7	6	sandy silt to clayey silt
1.51	23.48	0.1465	0.624	-1.201	8	6	sandy silt to clayey silt
1.57	26.00	0.1456	0.560	-1.361	8	6	sandy silt to clayey silt
1.64	26.45	0.1621	0.613	-1.560	8	6	sandy silt to clayey silt
1.71	23.18	0.1596	0.689	-1.673	8	6	sandy silt to clayey silt
1.77	18.60	0.1662	0.894	-1.844	8	6	sandy silt to clayey silt
1.84	16.46	0.1602	0.973	-1.916	7	6	sandy silt to clayey silt
1.90	14.77	0.0701	0.475	-1.932	6	6	sandy silt to clayey silt
1.97	13.88	0.0712	0.513	-1.988	6	6	sandy silt to clayey silt
2.03	13.30	0.0854	0.642	-1.966	5	6	sandy silt to clayey silt
2.10	12.89	0.0860	0.667	-1.975	5	6	sandy silt to clayey silt
2.17	12.38	0.0807	0.652	-2.013	4	6	sandy silt to clayey silt
2.23	9.10	0.0733	0.806	1.236	4	6	sandy silt to clayey silt
2.30	8.83	0.0737	0.835	1.117	5	5	clayey silt to silty clay
2.36	8.14	0.0792	0.973	1.014	4	5	clayey silt to silty clay
2.43	7.53	0.0783	1.039	0.899	4	1	sensitive fine grained
2.49	7.16	0.0873	1.218	0.815	3	1	sensitive fine grained
2.56	6.62	0.0970	1.465	0.743	3	1	sensitive fine grained
2.62	6.18	0.0973	1.575	0.712	3	1	sensitive fine grained
2.69	6.04	0.0887	1.470	0.696	3	1	sensitive fine grained
2.76	6.06	0.0837	1.382	0.671	3	1	sensitive fine grained
2.82	6.00	0.0766	1.277	0.634	3	1	sensitive fine grained
2.89	5.87	0.0721	1.226	0.602	3	1	sensitive fine grained
2.95	5.59	0.0757	1.355	0.587	3	1	sensitive fine grained
3.02	5.43	0.0760	1.400	0.634	3	1	sensitive fine grained
3.08	5.47	0.0706	1.291	0.634	3	1	sensitive fine grained
3.15	5.45	0.0665	1.220	0.665	3	1	sensitive fine grained
3.22	5.54	0.0686	1.238	0.680	3	1	sensitive fine grained
3.28	5.67	0.0813	1.434	0.665	3	1	sensitive fine grained
3.35	5.62	0.0786	1.400	0.662	3	1	sensitive fine grained
3.41	5.79	0.0779	1.345	0.674	3	1	sensitive fine grained
3.48	5.89	0.0725	1.230	0.736	3	1	sensitive fine grained
3.54	5.91	0.0652	1.102	0.746	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	6.08	0.0811	1.332	0.743	3	1	sensitive fine grained
3.67	6.71	0.0859	1.280	0.771	3	1	sensitive fine grained
3.74	7.08	0.0928	1.310	0.790	3	1	sensitive fine grained
3.81	7.27	0.0855	1.177	0.827	3	1	sensitive fine grained
3.87	7.33	0.0845	1.152	0.839	4	1	sensitive fine grained
3.94	7.70	0.0800	1.040	0.836	4	1	sensitive fine grained
4.00	8.16	0.0804	0.985	0.830	4	5	clayey silt to silty clay
4.07	8.07	0.0779	0.966	0.858	4	5	clayey silt to silty clay
4.13	7.17	0.0908	1.266	0.980	4	5	clayey silt to silty clay
4.20	7.22	0.1057	1.465	1.105	4	5	clayey silt to silty clay
4.27	7.77	0.0976	1.256	1.258	4	5	clayey silt to silty clay
4.33	7.98	0.0887	1.111	1.420	4	5	clayey silt to silty clay
4.40	8.81	0.0871	0.990	1.670	4	5	clayey silt to silty clay
4.46	9.89	0.0905	0.914	1.788	4	5	clayey silt to silty clay
4.53	10.85	0.0994	0.916	1.760	4	5	clayey silt to silty clay
4.59	9.99	0.0893	0.894	1.698	4	5	clayey silt to silty clay
4.66	8.34	0.0894	1.073	1.766	4	5	clayey silt to silty clay
4.72	7.16	0.0785	1.096	2.094	4	1	sensitive fine grained
4.79	6.40	0.0705	1.102	2.749	3	1	sensitive fine grained
4.86	6.08	0.0595	0.978	3.823	3	1	sensitive fine grained
4.92	5.77	0.0579	1.004	4.996	3	1	sensitive fine grained
4.99	5.38	0.0675	1.253	5.817	3	1	sensitive fine grained
5.05	5.03	0.0905	1.799	6.769	3	1	sensitive fine grained
5.12	5.45	0.0614	1.127	7.689	3	1	sensitive fine grained
5.18	7.17	0.0617	0.860	7.930	4	1	sensitive fine grained
5.25	8.51	0.0650	0.764	7.714	4	5	clayey silt to silty clay
5.31	8.60	0.0835	0.971	7.393	4	5	clayey silt to silty clay
5.38	11.93	0.1031	0.865	5.308	5	5	clayey silt to silty clay
5.45	11.92	0.1162	0.975	5.184	5	5	clayey silt to silty clay
5.51	11.44	0.1260	1.101	5.165	5	5	clayey silt to silty clay
5.58	10.99	0.1306	1.188	5.271	5	5	clayey silt to silty clay
5.64	10.73	0.1543	1.438	5.595	5	5	clayey silt to silty clay
5.71	10.41	0.2053	1.972	6.032	5	5	clayey silt to silty clay
5.77	10.35	0.2206	2.132	7.053	6	5	clayey silt to silty clay
5.84	11.39	0.2196	1.928	8.011	6	5	clayey silt to silty clay
5.91	14.80	0.2403	1.624	8.114	7	5	clayey silt to silty clay
5.97	17.54	0.2392	1.364	7.821	6	6	sandy silt to clayey silt
6.04	18.35	0.2440	1.330	7.499	6	6	sandy silt to clayey silt
6.10	17.93	0.2394	1.335	7.315	7	6	sandy silt to clayey silt
6.17	17.54	0.2222	1.267	7.249	7	6	sandy silt to clayey silt
6.23	16.88	0.1930	1.144	7.143	7	6	sandy silt to clayey silt
6.30	16.62	0.1970	1.185	7.100	6	6	sandy silt to clayey silt
6.36	16.42	0.1914	1.166	7.072	6	6	sandy silt to clayey silt
6.43	15.29	0.1852	1.211	7.047	6	6	sandy silt to clayey silt
6.50	13.37	0.1745	1.305	7.037	5	6	sandy silt to clayey silt
6.56	11.53	0.1653	1.433	7.078	6	5	clayey silt to silty clay
6.63	10.88	0.1518	1.396	7.165	6	5	clayey silt to silty clay
6.69	10.73	0.1359	1.267	7.240	5	5	clayey silt to silty clay
6.76	10.67	0.1267	1.188	7.296	5	5	clayey silt to silty clay
6.82	10.20	0.1254	1.230	7.271	5	5	clayey silt to silty clay
6.89	9.10	0.1098	1.207	7.278	4	5	clayey silt to silty clay
6.96	7.78	0.0937	1.205	7.278	4	5	clayey silt to silty clay
7.02	6.53	0.0894	1.368	7.327	4	5	clayey silt to silty clay
7.09	5.87	0.0873	1.488	7.546	3	1	sensitive fine grained
7.15	5.63	0.0909	1.616	8.286	3	5	clayey silt to silty clay
7.22	6.10	0.0958	1.570	9.871	4	5	clayey silt to silty clay
7.28	8.09	0.1136	1.404	10.501	4	5	clayey silt to silty clay
7.35	10.54	0.1407	1.335	10.545	5	5	clayey silt to silty clay
7.41	12.41	0.1692	1.363	10.242	6	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	14.19	0.1834	1.292	9.952	6	5	clayey silt to silty clay
7.55	15.54	0.2167	1.394	9.662	7	5	clayey silt to silty clay
7.61	15.92	0.2360	1.482	9.440	6	6	sandy silt to clayey silt
7.68	15.40	0.2355	1.529	9.334	6	6	sandy silt to clayey silt
7.74	14.64	0.2345	1.602	9.306	6	6	sandy silt to clayey silt
7.81	14.59	0.2344	1.606	9.337	6	6	sandy silt to clayey silt
7.87	15.01	0.2274	1.515	9.259	6	6	sandy silt to clayey silt
7.94	15.18	0.2226	1.467	9.153	6	6	sandy silt to clayey silt
8.01	15.26	0.2128	1.394	9.103	6	6	sandy silt to clayey silt
8.07	15.59	0.2117	1.358	8.988	6	6	sandy silt to clayey silt
8.14	16.03	0.2145	1.338	8.985	6	6	sandy silt to clayey silt
8.20	16.83	0.2236	1.329	8.938	6	6	sandy silt to clayey silt
8.27	17.25	0.2490	1.443	8.894	6	6	sandy silt to clayey silt
8.33	17.30	0.2076	1.200	8.838	6	6	sandy silt to clayey silt
8.40	17.10	0.1976	1.156	8.813	6	6	sandy silt to clayey silt
8.46	16.83	0.1986	1.180	8.813	6	6	sandy silt to clayey silt
8.53	16.29	0.1947	1.195	8.816	6	6	sandy silt to clayey silt
8.60	4.26	0.2030	4.763	7.786	6	6	sandy silt to clayey silt
8.66	18.15	0.1863	1.027	7.714	6	6	sandy silt to clayey silt
8.73	18.39	0.1958	1.065	7.611	6	6	sandy silt to clayey silt
8.79	17.93	0.2142	1.195	7.568	6	6	sandy silt to clayey silt
8.86	17.90	0.2423	1.354	7.533	7	6	sandy silt to clayey silt
8.92	17.34	0.2488	1.434	7.471	7	6	sandy silt to clayey silt
8.99	17.03	0.2401	1.410	7.427	7	6	sandy silt to clayey silt
9.06	17.97	0.2217	1.233	7.427	7	6	sandy silt to clayey silt
9.12	19.36	0.2093	1.081	7.405	7	6	sandy silt to clayey silt
9.19	18.64	0.2035	1.092	7.312	6	6	sandy silt to clayey silt
9.25	16.67	0.1715	1.029	7.234	6	6	sandy silt to clayey silt
9.32	15.04	0.1545	1.027	7.184	6	6	sandy silt to clayey silt
9.38	13.50	0.1463	1.084	7.203	6	6	sandy silt to clayey silt
9.45	12.95	0.1361	1.051	7.249	5	6	sandy silt to clayey silt
9.51	12.49	0.1375	1.100	7.246	5	6	sandy silt to clayey silt
9.58	12.23	0.1427	1.167	7.265	6	5	clayey silt to silty clay
9.65	11.94	0.1639	1.373	7.327	6	5	clayey silt to silty clay
9.71	11.77	0.1761	1.496	7.327	6	5	clayey silt to silty clay
9.78	12.01	0.1743	1.451	7.337	6	5	clayey silt to silty clay
9.84	12.07	0.1721	1.425	7.443	6	5	clayey silt to silty clay
9.91	12.12	0.1653	1.364	7.440	6	5	clayey silt to silty clay
9.97	12.15	0.1538	1.266	7.421	6	5	clayey silt to silty clay
10.04	11.73	0.1476	1.258	7.440	6	5	clayey silt to silty clay
10.10	11.19	0.1377	1.230	7.512	5	5	clayey silt to silty clay
10.17	10.95	0.1189	1.086	7.533	5	5	clayey silt to silty clay
10.24	11.02	0.1090	0.989	7.580	4	6	sandy silt to clayey silt
10.30	11.08	0.0893	0.806	7.605	4	6	sandy silt to clayey silt
10.37	11.13	0.0744	0.669	7.568	4	6	sandy silt to clayey silt
10.43	10.66	0.0726	0.681	7.611	4	6	sandy silt to clayey silt
10.50	9.91	0.0656	0.662	7.627	4	6	sandy silt to clayey silt
10.56	9.38	0.0562	0.599	7.680	4	6	sandy silt to clayey silt
10.63	9.04	0.0495	0.548	7.739	4	5	clayey silt to silty clay
10.70	8.78	0.0550	0.626	7.880	4	5	clayey silt to silty clay
10.76	8.60	0.0716	0.832	7.964	4	5	clayey silt to silty clay
10.83	8.40	0.0925	1.102	8.045	4	5	clayey silt to silty clay
10.89	8.33	0.1203	1.444	8.242	5	5	clayey silt to silty clay
10.96	8.74	0.1508	1.725	8.407	5	5	clayey silt to silty clay
11.02	10.06	0.1621	1.610	8.598	6	5	clayey silt to silty clay
11.09	13.30	0.1707	1.283	8.648	6	5	clayey silt to silty clay
11.15	16.10	0.1864	1.158	8.445	5	6	sandy silt to clayey silt
11.22	16.71	0.1883	1.126	8.220	6	6	sandy silt to clayey silt
11.29	16.29	0.1947	1.195	7.952	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	16.04	0.1930	1.203	7.858	6	6	sandy silt to clayey silt
11.42	15.91	0.1810	1.138	7.783	6	6	sandy silt to clayey silt
11.48	15.73	0.1787	1.136	7.696	6	6	sandy silt to clayey silt
11.55	15.57	0.1757	1.128	7.711	6	6	sandy silt to clayey silt
11.61	15.01	0.1854	1.235	7.615	6	6	sandy silt to clayey silt
11.68	14.63	0.1766	1.207	7.552	6	6	sandy silt to clayey silt
11.75	14.47	0.1729	1.195	7.580	6	6	sandy silt to clayey silt
11.81	14.51	0.1685	1.162	7.524	6	6	sandy silt to clayey silt
11.88	15.63	0.1642	1.051	8.251	6	6	sandy silt to clayey silt
11.94	15.13	0.1619	1.070	8.214	6	6	sandy silt to clayey silt
12.01	14.51	0.1538	1.060	8.198	5	6	sandy silt to clayey silt
12.07	13.65	0.1361	0.997	8.201	5	6	sandy silt to clayey silt
12.14	12.69	0.1129	0.890	8.211	5	6	sandy silt to clayey silt
12.20	12.12	0.0983	0.811	8.217	5	6	sandy silt to clayey silt
12.27	11.69	0.0979	0.837	8.217	5	6	sandy silt to clayey silt
12.34	11.52	0.0784	0.680	8.245	5	6	sandy silt to clayey silt
12.40	11.25	0.0579	0.514	8.339	4	6	sandy silt to clayey silt
12.47	11.44	0.0538	0.471	8.351	4	6	sandy silt to clayey silt
12.53	11.56	0.0596	0.515	8.385	4	6	sandy silt to clayey silt
12.60	11.47	0.0647	0.564	8.435	4	6	sandy silt to clayey silt
12.66	10.49	0.0538	0.513	8.445	4	6	sandy silt to clayey silt
12.73	9.72	0.0533	0.548	8.423	4	6	sandy silt to clayey silt
12.80	9.58	0.0647	0.675	8.488	4	6	sandy silt to clayey silt
12.86	9.81	0.0609	0.621	8.566	4	6	sandy silt to clayey silt
12.93	9.89	0.0554	0.560	8.610	4	6	sandy silt to clayey silt
12.99	10.08	0.0492	0.488	8.604	4	6	sandy silt to clayey silt
13.06	10.25	0.0481	0.470	8.619	4	6	sandy silt to clayey silt
13.12	10.82	0.0507	0.468	8.579	4	6	sandy silt to clayey silt
13.19	10.16	0.0512	0.504	8.598	4	6	sandy silt to clayey silt
13.25	9.84	0.0538	0.547	8.641	4	6	sandy silt to clayey silt
13.32	10.01	0.0577	0.576	8.672	4	6	sandy silt to clayey silt
13.39	10.13	0.0533	0.526	8.688	4	6	sandy silt to clayey silt
13.45	10.02	0.0647	0.645	8.722	4	6	sandy silt to clayey silt
13.52	10.04	0.0676	0.673	8.766	4	6	sandy silt to clayey silt
13.58	9.93	0.0760	0.766	8.760	4	6	sandy silt to clayey silt
13.65	9.76	0.0822	0.842	8.766	4	6	sandy silt to clayey silt
13.71	9.89	0.0853	0.863	8.800	4	6	sandy silt to clayey silt
13.78	10.83	0.0896	0.827	8.847	4	6	sandy silt to clayey silt
13.85	11.60	0.0843	0.727	8.882	4	6	sandy silt to clayey silt
13.91	11.57	0.0660	0.571	8.878	5	6	sandy silt to clayey silt
13.98	12.11	0.0730	0.603	8.888	5	6	sandy silt to clayey silt
14.04	13.34	0.0906	0.679	8.894	5	6	sandy silt to clayey silt
14.11	13.04	0.1034	0.793	8.903	5	6	sandy silt to clayey silt
14.17	12.02	0.1249	1.039	8.931	5	6	sandy silt to clayey silt
14.24	11.81	0.1362	1.153	9.006	5	6	sandy silt to clayey silt
14.30	12.69	0.1388	1.094	9.081	5	6	sandy silt to clayey silt
14.37	13.74	0.1295	0.943	9.156	5	6	sandy silt to clayey silt
14.44	14.50	0.1311	0.904	9.178	5	6	sandy silt to clayey silt
14.50	15.27	0.1223	0.801	9.153	6	6	sandy silt to clayey silt
14.57	15.26	0.1250	0.819	9.119	6	6	sandy silt to clayey silt
14.63	15.29	0.1272	0.831	9.112	6	6	sandy silt to clayey silt
14.70	14.94	0.1281	0.857	9.125	6	6	sandy silt to clayey silt
14.76	14.38	0.1992	1.384	9.184	6	6	sandy silt to clayey silt
14.83	14.05	0.1756	1.250	9.225	5	6	sandy silt to clayey silt
14.90	13.71	0.1690	1.232	9.265	5	6	sandy silt to clayey silt
14.96	13.41	0.1731	1.290	9.306	5	6	sandy silt to clayey silt
15.03	13.29	0.1806	1.359	9.375	5	6	sandy silt to clayey silt
15.09	14.87	0.1735	1.167	10.504	5	6	sandy silt to clayey silt
15.16	15.58	0.1627	1.044	10.301	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	15.03	0.1666	1.108	10.255	6	6	sandy silt to clayey silt
15.29	14.52	0.1612	1.110	10.270	5	6	sandy silt to clayey silt
15.35	14.11	0.1398	0.991	10.227	5	6	sandy silt to clayey silt
15.42	13.29	0.1123	0.845	10.199	5	6	sandy silt to clayey silt
15.49	12.60	0.1127	0.894	10.242	5	6	sandy silt to clayey silt
15.55	12.55	0.0998	0.795	10.286	5	6	sandy silt to clayey silt
15.62	12.25	0.0861	0.703	10.298	5	6	sandy silt to clayey silt
15.68	11.71	0.0784	0.669	10.311	5	6	sandy silt to clayey silt
15.75	11.52	0.0701	0.609	10.336	5	6	sandy silt to clayey silt
15.81	11.58	0.0784	0.677	10.351	4	6	sandy silt to clayey silt
15.88	11.44	0.0793	0.693	10.436	4	6	sandy silt to clayey silt
15.94	11.72	0.0832	0.710	10.486	4	6	sandy silt to clayey silt
16.01	11.61	0.0695	0.598	10.507	4	6	sandy silt to clayey silt
16.08	11.33	0.0649	0.573	10.564	4	6	sandy silt to clayey silt
16.14	11.64	0.0650	0.559	10.589	4	6	sandy silt to clayey silt
16.21	12.06	0.0742	0.615	10.614	5	6	sandy silt to clayey silt
16.27	11.92	0.0673	0.564	10.648	5	6	sandy silt to clayey silt
16.34	11.93	0.0576	0.483	10.726	5	6	sandy silt to clayey silt
16.40	12.32	0.0486	0.394	10.745	5	6	sandy silt to clayey silt
16.47	12.46	0.0590	0.474	10.723	5	6	sandy silt to clayey silt
16.54	12.31	0.0662	0.538	10.710	5	6	sandy silt to clayey silt
16.60	11.99	0.0733	0.611	10.676	5	6	sandy silt to clayey silt
16.67	11.68	0.0867	0.742	10.763	5	6	sandy silt to clayey silt
16.73	12.44	0.0860	0.691	10.823	5	6	sandy silt to clayey silt
16.80	13.54	0.0877	0.647	10.844	5	6	sandy silt to clayey silt
16.86	13.44	0.0832	0.619	10.804	5	6	sandy silt to clayey silt
16.93	13.46	0.0800	0.595	10.779	5	6	sandy silt to clayey silt
16.99	14.08	0.0815	0.579	10.766	5	6	sandy silt to clayey silt
17.06	14.31	0.0787	0.550	10.810	5	6	sandy silt to clayey silt
17.13	13.83	0.0909	0.657	10.838	5	6	sandy silt to clayey silt
17.19	13.19	0.0921	0.698	10.901	5	6	sandy silt to clayey silt
17.26	12.74	0.0912	0.716	10.916	5	6	sandy silt to clayey silt
17.32	12.58	0.0815	0.648	10.979	5	6	sandy silt to clayey silt
17.39	12.80	0.0900	0.703	11.050	5	6	sandy silt to clayey silt
17.45	13.66	0.1142	0.836	11.094	5	6	sandy silt to clayey silt
17.52	14.65	0.1233	0.842	11.088	5	6	sandy silt to clayey silt
17.59	15.11	0.1445	0.956	11.079	6	6	sandy silt to clayey silt
17.65	15.42	0.1637	1.062	11.063	6	6	sandy silt to clayey silt
17.72	15.76	0.1629	1.034	11.010	6	6	sandy silt to clayey silt
17.78	16.09	0.1674	1.040	11.007	6	6	sandy silt to clayey silt
17.85	16.52	0.1642	0.994	10.972	6	6	sandy silt to clayey silt
17.91	16.59	0.1515	0.913	10.929	6	6	sandy silt to clayey silt
17.98	16.17	0.0577	0.357	10.876	6	6	sandy silt to clayey silt
18.04	15.75	0.0663	0.421	10.876	6	6	sandy silt to clayey silt
18.11	15.13	0.0645	0.426	10.866	6	6	sandy silt to clayey silt
18.18	14.61	0.0640	0.438	10.910	6	6	sandy silt to clayey silt
18.24	14.41	0.0578	0.401	10.888	6	6	sandy silt to clayey silt
18.31	15.64	0.0667	0.426	9.390	6	6	sandy silt to clayey silt
18.37	15.49	0.0744	0.480	9.415	6	6	sandy silt to clayey silt
18.44	15.28	0.0664	0.435	9.400	6	6	sandy silt to clayey silt
18.50	15.21	0.0690	0.453	9.431	6	6	sandy silt to clayey silt
18.57	15.32	0.0711	0.464	9.499	6	6	sandy silt to clayey silt
18.64	15.15	0.0733	0.483	9.515	6	6	sandy silt to clayey silt
18.70	14.91	0.0744	0.499	9.581	6	6	sandy silt to clayey silt
18.77	15.20	0.0760	0.500	9.684	6	6	sandy silt to clayey silt
18.83	15.14	0.0605	0.400	9.771	5	6	sandy silt to clayey silt
18.90	14.53	0.0254	0.175	9.743	5	6	sandy silt to clayey silt
18.96	12.32	0.0222	0.181	9.734	5	6	sandy silt to clayey silt
19.03	10.26	0.0130	0.126	9.743	4	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	8.46	0.0045	0.054	9.796	4	1	sensitive fine grained
19.16	7.04	-0.0077	-0.109	10.002	4	1	sensitive fine grained
19.23	6.37	-0.0114	-0.179	10.286	3	1	sensitive fine grained
19.29	5.81	-0.0068	-0.118	10.704	3	1	sensitive fine grained
19.36	5.63	0.0004	0.007	11.425	0	0	<out of range>
19.42	6.16	0.0104	0.168	12.311	0	0	<out of range>
19.49	7.08	0.0125	0.177	12.832	4	1	sensitive fine grained
19.55	8.16	-0.0003	-0.003	13.123	4	1	sensitive fine grained
19.62	9.13	-0.0089	-0.097	13.232	4	1	sensitive fine grained
19.69	9.68	0.0012	0.012	13.198	4	1	sensitive fine grained
19.75	9.50	0.0036	0.038	13.204	0	0	<out of range>
19.82	9.26	0.0031	0.033	13.191	0	0	<out of range>
19.88	9.15	-0.0052	-0.057	13.247	0	0	<out of range>
19.95	8.86	-0.0084	-0.095	13.254	0	0	<out of range>
20.01	8.30	-0.0029	-0.035	13.394	0	0	<out of range>
20.08	7.94	0.0010	0.012	13.694	0	0	<out of range>
20.14	7.93	-0.0041	-0.052	14.015	0	0	<out of range>
20.21	8.12	-0.0081	-0.099	14.121	0	0	<out of range>
20.28	8.11	-0.0146	-0.180	14.131	0	0	<out of range>
20.34	8.46	0.0007	0.008	14.131	0	0	<out of range>
20.41	8.61	0.0049	0.056	14.106	0	0	<out of range>
20.47	8.06	-0.0025	-0.031	14.134	0	0	<out of range>
20.54	7.96	-0.0088	-0.111	14.199	0	0	<out of range>
20.60	7.57	-0.0056	-0.074	14.340	0	0	<out of range>
20.67	7.09	0.0008	0.012	14.486	0	0	<out of range>
20.73	6.52	0.0057	0.087	14.895	0	0	<out of range>
20.80	6.39	-0.0017	-0.026	15.388	0	0	<out of range>
20.87	6.51	-0.0146	-0.224	15.479	0	0	<out of range>
20.93	6.43	0.0004	0.007	15.513	0	0	<out of range>
21.00	6.20	-0.0001	-0.001	15.588	3	1	sensitive fine grained
21.06	6.06	-0.0097	-0.159	15.666	3	1	sensitive fine grained
21.13	6.14	0.0051	0.082	15.816	3	1	sensitive fine grained
21.19	6.46	0.0932	1.442	16.097	3	1	sensitive fine grained
21.26	7.39	0.0581	0.785	16.143	3	1	sensitive fine grained
21.33	7.68	0.0801	1.043	16.106	4	1	sensitive fine grained
21.39	7.36	0.0718	0.976	16.009	4	5	clayey silt to silty clay
21.46	7.21	0.0964	1.336	16.034	4	1	sensitive fine grained
21.52	9.76	0.0960	0.984	12.102	4	1	sensitive fine grained
21.59	9.53	0.0513	0.538	12.168	4	1	sensitive fine grained
21.65	8.58	0.0208	0.242	12.277	4	1	sensitive fine grained
21.72	8.56	0.0136	0.158	12.480	4	1	sensitive fine grained
21.78	8.89	0.0386	0.434	13.026	4	1	sensitive fine grained
21.85	8.65	0.0313	0.361	13.219	4	1	sensitive fine grained
21.92	7.18	0.0409	0.570	13.613	4	1	sensitive fine grained
21.98	6.14	0.0634	1.032	15.816	4	6	sandy silt to clayey silt
22.05	7.74	0.0591	0.764	20.572	5	6	sandy silt to clayey silt
22.11	14.34	0.0586	0.408	22.285	5	6	sandy silt to clayey silt
22.18	20.59	0.0755	0.367	20.397	6	6	sandy silt to clayey silt
22.24	22.07	0.0898	0.407	18.721	7	6	sandy silt to clayey silt
22.31	21.57	0.1024	0.475	17.192	6	7	silty sand to sandy silt
22.38	21.38	0.1122	0.525	16.477	7	7	silty sand to sandy silt
22.44	21.10	0.1535	0.728	16.197	7	7	silty sand to sandy silt
22.51	21.06	0.1241	0.589	16.031	7	7	silty sand to sandy silt
22.57	22.39	0.1534	0.685	15.953	8	7	silty sand to sandy silt
22.64	25.99	0.1303	0.501	15.788	8	7	silty sand to sandy silt
22.70	29.39	0.1345	0.458	15.569	9	7	silty sand to sandy silt
22.77	32.58	0.1175	0.361	15.223	9	7	silty sand to sandy silt
22.83	33.48	0.0799	0.238	15.067	10	7	silty sand to sandy silt
22.90	32.22	0.0765	0.237	14.855	9	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	29.44	0.1022	0.347	14.646	9	7	silty sand to sandy silt
23.03	25.31	0.1438	0.568	14.568	8	7	silty sand to sandy silt
23.10	21.71	0.1284	0.592	14.530	8	7	silty sand to sandy silt
23.16	19.15	0.0801	0.418	14.527	7	7	silty sand to sandy silt
23.23	18.88	0.0446	0.236	14.564	6	7	silty sand to sandy silt
23.29	20.52	0.0407	0.198	14.564	7	6	sandy silt to clayey silt
23.36	19.22	0.0506	0.263	14.443	6	6	sandy silt to clayey silt
23.43	15.41	0.0628	0.407	14.330	6	6	sandy silt to clayey silt
23.49	13.05	0.0763	0.584	14.371	6	6	sandy silt to clayey silt
23.56	12.47	0.0890	0.714	14.536	6	6	sandy silt to clayey silt
23.62	13.46	0.0660	0.490	14.705	5	6	sandy silt to clayey silt
23.69	13.58	0.0455	0.335	14.805	5	6	sandy silt to clayey silt
23.75	13.86	0.0318	0.230	14.998	5	6	sandy silt to clayey silt
23.82	15.82	0.0306	0.193	15.167	5	6	sandy silt to clayey silt
23.88	16.29	0.0622	0.382	15.198	5	6	sandy silt to clayey silt
23.95	13.75	0.0538	0.392	15.251	5	6	sandy silt to clayey silt
24.02	10.70	0.0445	0.416	15.507	4	6	sandy silt to clayey silt
24.08	8.71	0.0412	0.473	16.293	4	6	sandy silt to clayey silt
24.15	7.92	0.0539	0.681	17.900	4	5	clayey silt to silty clay
24.21	7.31	0.0603	0.825	20.422	4	1	sensitive fine grained
24.28	7.03	0.0698	0.993	21.527	3	5	clayey silt to silty clay
24.34	6.93	0.1368	1.974	21.152	4	4	silty clay to clay
24.41	6.60	0.1410	2.137	20.537	4	4	silty clay to clay
24.48	6.19	0.1571	2.538	20.041	6	3	clay
24.54	5.78	0.2089	3.612	19.838	6	3	clay
24.61	5.71	0.2845	4.984	19.558	6	3	clay
24.67	6.31	0.3975	6.297	19.573	7	3	clay
24.74	7.32	0.4069	5.555	19.770	7	3	clay
24.80	8.96	0.4094	4.569	7.118	8	3	clay
24.87	9.00	0.4030	4.480	6.950	8	3	clay
24.93	8.86	0.4011	4.526	7.346	9	3	clay
25.00	9.07	0.3997	4.408	7.914	9	3	clay
25.07	9.48	0.3794	4.003	7.886	9	3	clay
25.13	9.57	0.4063	4.247	7.533	9	3	clay
25.20	9.39	0.3688	3.929	7.097	9	3	clay
25.26	8.94	0.3642	4.072	6.903	9	3	clay
25.33	8.43	0.2960	3.513	6.738	8	3	clay
25.39	8.30	0.2576	3.102	6.731	6	4	silty clay to clay
25.46	8.17	0.2043	2.502	6.859	6	4	silty clay to clay
25.52	8.93	0.1862	2.085	7.134	6	4	silty clay to clay
25.59	9.32	0.2075	2.225	7.449	6	4	silty clay to clay
25.66	10.29	0.2169	2.108	8.002	5	5	clayey silt to silty clay
25.72	11.73	0.2525	2.152	8.853	6	5	clayey silt to silty clay
25.79	12.95	0.2633	2.033	10.133	6	5	clayey silt to silty clay
25.85	14.48	0.3388	2.340	10.645	7	5	clayey silt to silty clay
25.92	15.37	0.3247	2.113	11.182	7	5	clayey silt to silty clay
25.98	15.47	0.3604	2.329	11.587	7	5	clayey silt to silty clay
26.05	15.06	0.4410	2.928	12.074	8	5	clayey silt to silty clay
26.12	16.17	0.5284	3.267	12.920	9	5	clayey silt to silty clay
26.18	20.13	0.5694	2.829	14.549	9	5	clayey silt to silty clay
26.25	22.97	0.5727	2.493	15.778	10	5	clayey silt to silty clay
26.31	23.29	0.5852	2.512	16.471	10	5	clayey silt to silty clay
26.38	22.52	0.5824	2.586	16.964	11	5	clayey silt to silty clay
26.44	22.24	0.6324	2.844	17.342	11	5	clayey silt to silty clay
26.51	22.01	0.7238	3.289	18.915	11	5	clayey silt to silty clay
26.57	22.85	0.6645	2.908	20.846	11	5	clayey silt to silty clay
26.64	22.82	0.5799	2.541	22.766	11	5	clayey silt to silty clay
26.71	23.69	0.5562	2.348	25.281	12	5	clayey silt to silty clay
26.77	24.77	0.6243	2.520	27.796	12	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

IN PROGRESS

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	25.96	0.6415	2.471	30.583	12	5	clayey silt to silty clay
26.90	26.54	0.7296	2.749	34.936	13	5	clayey silt to silty clay
26.97	26.80	0.9794	3.655	38.519	15	5	clayey silt to silty clay
27.03	31.17	1.2928	4.148	43.365	16	5	clayey silt to silty clay
27.10	37.03	1.2760	3.446	46.227	17	5	clayey silt to silty clay
27.17	40.22	1.3189	3.279	37.358	18	5	clayey silt to silty clay
27.23	40.33	1.2827	3.180	29.123	20	5	clayey silt to silty clay
27.30	41.97	1.2374	2.948	23.692	17	6	sandy silt to clayey silt
27.36	47.69	1.1986	2.513	20.197	17	6	sandy silt to clayey silt
27.43	47.81	1.1940	2.497	15.747	18	6	sandy silt to clayey silt
27.49	49.96	1.0584	2.118	14.196	15	7	silty sand to sandy silt
27.56	51.77	0.6741	1.302	11.877	15	7	silty sand to sandy silt
27.62	49.09	0.7731	1.575	10.511	14	7	silty sand to sandy silt
27.69	42.68	0.0149	0.035	9.649	14	7	silty sand to sandy silt
27.76	35.50	-0.0580	-0.163	9.446	10	8	sand to silty sand
27.82	28.48	-0.0476	-0.167	9.727	0	0	<out of range>
27.89	42.64	-0.0534	-0.125	17.694	0	0	<out of range>
27.95	49.28	-0.0342	-0.069	14.193	0	0	<out of range>
28.02	260.35	-32768	-32768	0.109	0	0	<out of range>
28.08	322.89	-32768	-32768	-1.358	0	0	<out of range>
28.15	325.90	-32768	-32768	2.615	0	0	<out of range>
28.22	264.49	-32768	-32768	3.608	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee)
Project No: 60095742

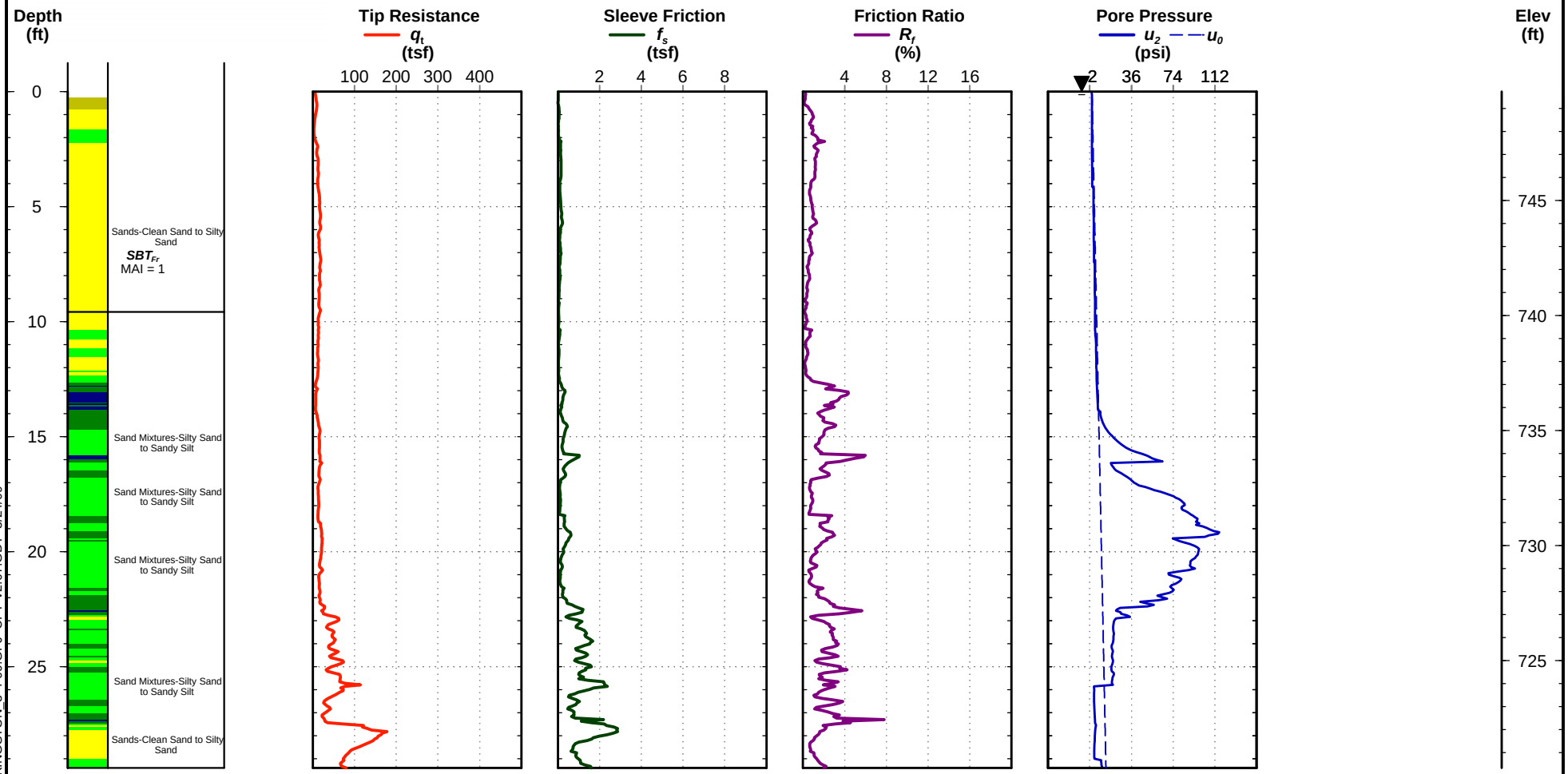
Cone Penetration Test

09-204-C1

Date: Jan. 24, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557992.83
Easting: 2440824.77
Elevation: 749.73 NGVD

Total Depth: 29.4 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



Electronic Filename: 09-204-C1.cpt

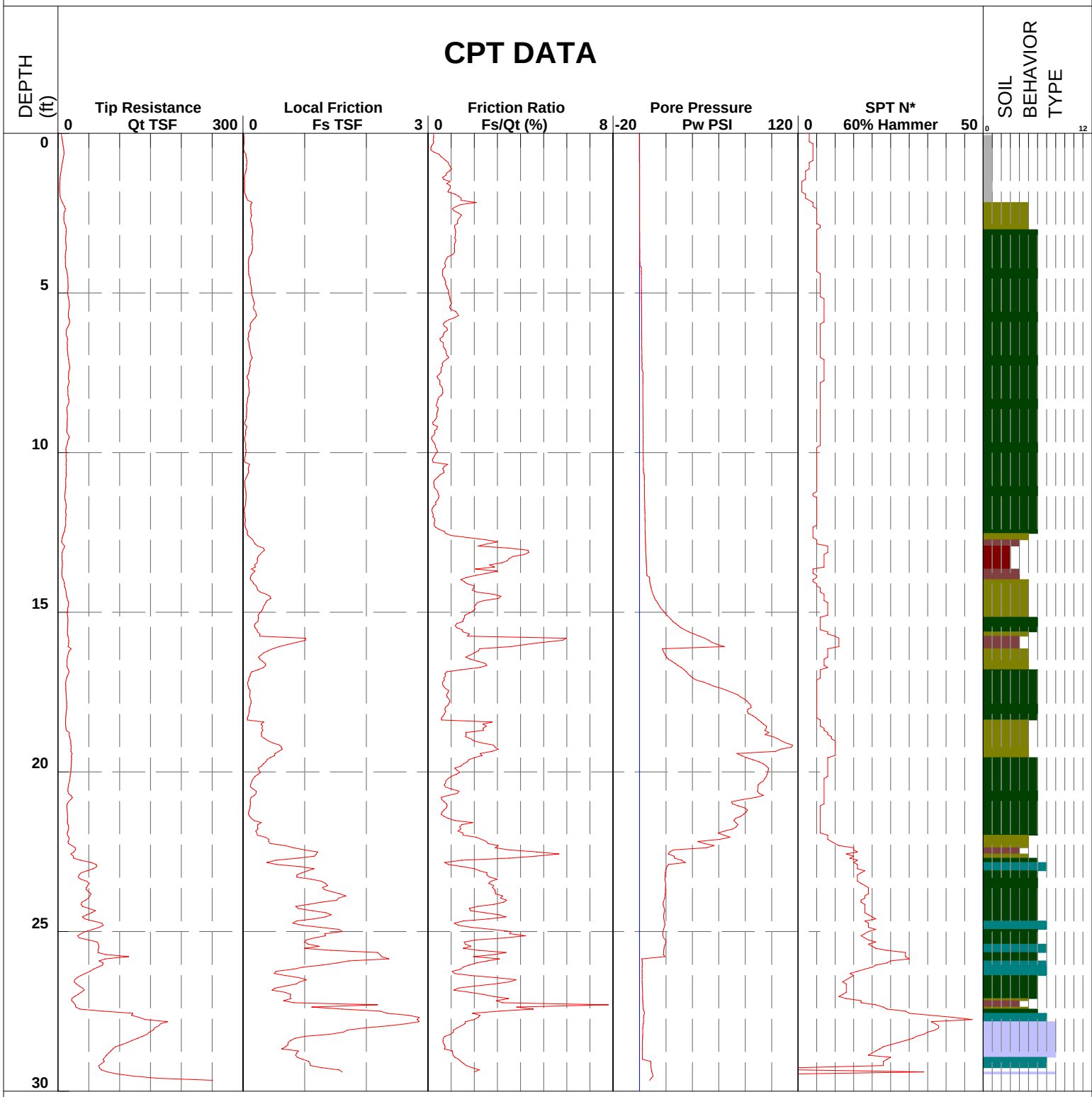
09-204-C1

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

AECOM

09-204-C1	60095742	1/24/2009 7:08:44 AM
DSG0870	TVA-Kingston	CAP CME-750

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-204-C1 1/24/2009 7:08:44 AM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	5.44	0.0131	0.240	-0.124	3	1	sensitive fine grained
0.13	6.22	0.0153	0.246	-0.107	3	1	sensitive fine grained
0.20	6.90	0.0154	0.224	-0.070	3	1	sensitive fine grained
0.26	7.29	0.0178	0.244	-0.082	3	1	sensitive fine grained
0.33	7.79	0.0170	0.219	-0.075	4	1	sensitive fine grained
0.39	8.33	0.0127	0.152	-0.104	4	1	sensitive fine grained
0.46	9.21	0.0114	0.124	-0.044	4	1	sensitive fine grained
0.52	9.36	0.0114	0.122	-0.082	4	1	sensitive fine grained
0.59	9.75	0.0243	0.249	-0.092	4	1	sensitive fine grained
0.66	9.74	0.0474	0.487	-0.061	4	1	sensitive fine grained
0.72	9.03	0.0492	0.545	-0.039	4	1	sensitive fine grained
0.79	8.55	0.0565	0.660	-0.090	4	1	sensitive fine grained
0.85	8.02	0.0617	0.769	-0.048	4	1	sensitive fine grained
0.92	7.34	0.0641	0.872	-0.041	3	1	sensitive fine grained
0.98	6.47	0.0584	0.903	0.065	3	1	sensitive fine grained
1.05	5.97	0.0578	0.968	0.051	3	1	sensitive fine grained
1.12	5.53	0.0560	1.014	0.068	3	1	sensitive fine grained
1.18	5.17	0.0480	0.929	0.029	2	1	sensitive fine grained
1.25	4.42	0.0353	0.799	0.032	2	1	sensitive fine grained
1.31	3.95	0.0308	0.781	0.044	2	1	sensitive fine grained
1.38	3.59	0.0226	0.630	0.048	2	1	sensitive fine grained
1.44	3.18	0.0214	0.674	0.053	2	1	sensitive fine grained
1.51	2.95	0.0279	0.946	0.048	1	1	sensitive fine grained
1.57	2.80	0.0227	0.811	0.053	1	1	sensitive fine grained
1.64	2.69	0.0257	0.955	0.061	1	1	sensitive fine grained
1.71	2.55	0.0246	0.963	0.039	1	1	sensitive fine grained
1.77	2.69	0.0240	0.895	0.051	1	1	sensitive fine grained
1.84	2.73	0.0234	0.857	0.073	1	1	sensitive fine grained
1.90	3.03	0.0351	1.159	0.061	2	1	sensitive fine grained
1.97	3.58	0.0470	1.312	0.051	2	1	sensitive fine grained
2.03	4.20	0.0601	1.432	0.065	2	1	sensitive fine grained
2.10	5.52	0.0784	1.421	0.048	3	1	sensitive fine grained
2.17	7.13	0.1487	2.085	0.048	4	5	clayey silt to silty clay
2.23	8.90	0.1266	1.422	0.053	4	5	clayey silt to silty clay
2.30	10.42	0.1265	1.214	0.053	4	5	clayey silt to silty clay
2.36	12.02	0.1263	1.051	0.032	5	5	clayey silt to silty clay
2.43	11.53	0.1295	1.123	0.051	5	5	clayey silt to silty clay
2.49	9.73	0.1273	1.308	0.063	5	5	clayey silt to silty clay
2.56	9.65	0.1401	1.452	0.070	5	5	clayey silt to silty clay
2.62	9.53	0.1324	1.389	0.065	5	5	clayey silt to silty clay
2.69	9.52	0.1242	1.305	0.073	5	5	clayey silt to silty clay
2.76	9.81	0.1247	1.271	0.082	5	5	clayey silt to silty clay
2.82	10.59	0.1358	1.282	0.095	5	5	clayey silt to silty clay
2.89	12.28	0.1412	1.150	0.109	6	5	clayey silt to silty clay
2.95	12.94	0.1494	1.154	0.097	6	5	clayey silt to silty clay
3.02	13.27	0.1562	1.177	0.102	5	6	sandy silt to clayey silt
3.08	13.24	0.1581	1.194	0.104	5	6	sandy silt to clayey silt
3.15	13.13	0.1550	1.180	0.119	5	6	sandy silt to clayey silt
3.22	12.70	0.1496	1.177	0.133	5	6	sandy silt to clayey silt
3.28	12.62	0.1459	1.156	0.138	5	6	sandy silt to clayey silt
3.35	12.42	0.1491	1.200	0.148	5	6	sandy silt to clayey silt
3.41	12.64	0.1494	1.182	0.174	5	6	sandy silt to clayey silt
3.48	13.05	0.1482	1.136	0.184	5	6	sandy silt to clayey silt
3.54	13.54	0.1557	1.150	0.177	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	13.42	0.1531	1.141	0.172	5	6	sandy silt to clayey silt
3.67	12.97	0.1494	1.152	0.204	5	6	sandy silt to clayey silt
3.74	12.22	0.1392	1.139	0.223	5	6	sandy silt to clayey silt
3.81	11.89	0.1253	1.054	0.223	5	6	sandy silt to clayey silt
3.87	11.86	0.1005	0.848	0.245	5	6	sandy silt to clayey silt
3.94	11.95	0.0952	0.797	0.228	5	6	sandy silt to clayey silt
4.00	12.11	0.0905	0.748	0.257	5	6	sandy silt to clayey silt
4.07	11.95	0.0857	0.717	0.262	5	6	sandy silt to clayey silt
4.13	12.09	0.0909	0.752	0.274	5	6	sandy silt to clayey silt
4.20	12.47	0.0916	0.735	1.379	5	6	sandy silt to clayey silt
4.27	13.90	0.0885	0.637	1.386	5	6	sandy silt to clayey silt
4.33	14.36	0.0906	0.631	1.381	5	6	sandy silt to clayey silt
4.40	14.83	0.0922	0.622	1.408	6	6	sandy silt to clayey silt
4.46	15.72	0.0978	0.622	1.418	6	6	sandy silt to clayey silt
4.53	16.31	0.1151	0.705	1.408	6	6	sandy silt to clayey silt
4.59	16.05	0.1172	0.730	1.420	6	6	sandy silt to clayey silt
4.66	16.13	0.1225	0.759	1.440	6	6	sandy silt to clayey silt
4.72	16.34	0.1238	0.758	1.413	6	6	sandy silt to clayey silt
4.79	16.57	0.1329	0.802	1.444	6	6	sandy silt to clayey silt
4.86	16.37	0.1358	0.830	1.432	6	6	sandy silt to clayey silt
4.92	16.03	0.1421	0.887	1.437	6	6	sandy silt to clayey silt
4.99	15.83	0.1391	0.878	1.486	6	6	sandy silt to clayey silt
5.05	16.01	0.1432	0.894	1.481	6	6	sandy silt to clayey silt
5.12	16.57	0.1547	0.933	1.473	6	6	sandy silt to clayey silt
5.18	17.27	0.1631	0.944	1.442	7	6	sandy silt to clayey silt
5.25	17.97	0.1723	0.959	1.495	7	6	sandy silt to clayey silt
5.31	18.17	0.1850	1.018	1.541	7	6	sandy silt to clayey silt
5.38	18.61	0.1797	0.966	1.522	7	6	sandy silt to clayey silt
5.45	18.36	0.1694	0.923	1.587	7	6	sandy silt to clayey silt
5.51	17.79	0.1742	0.979	1.563	7	6	sandy silt to clayey silt
5.58	17.11	0.2047	1.196	1.614	7	6	sandy silt to clayey silt
5.64	16.71	0.2112	1.264	1.626	7	6	sandy silt to clayey silt
5.71	16.70	0.2203	1.319	1.631	7	6	sandy silt to clayey silt
5.77	17.33	0.1973	1.138	1.684	7	6	sandy silt to clayey silt
5.84	18.55	0.1671	0.901	1.694	7	6	sandy silt to clayey silt
5.91	18.76	0.1381	0.736	1.658	7	6	sandy silt to clayey silt
5.97	18.35	0.1200	0.654	1.709	6	6	sandy silt to clayey silt
6.04	16.72	0.1167	0.698	1.638	6	6	sandy silt to clayey silt
6.10	14.90	0.1221	0.820	1.616	6	6	sandy silt to clayey silt
6.17	13.64	0.1143	0.838	1.655	6	6	sandy silt to clayey silt
6.23	13.28	0.0927	0.698	1.699	6	6	sandy silt to clayey silt
6.30	13.53	0.0900	0.665	1.696	6	6	sandy silt to clayey silt
6.36	14.29	0.0916	0.641	1.662	6	6	sandy silt to clayey silt
6.43	15.55	0.0800	0.514	1.747	6	6	sandy silt to clayey silt
6.50	15.62	0.0838	0.536	1.728	6	6	sandy silt to clayey silt
6.56	14.88	0.0993	0.668	1.757	6	6	sandy silt to clayey silt
6.63	15.26	0.1017	0.666	1.735	6	6	sandy silt to clayey silt
6.69	15.30	0.1022	0.668	1.742	6	6	sandy silt to clayey silt
6.76	15.06	0.1108	0.736	1.781	6	6	sandy silt to clayey silt
6.82	15.60	0.1218	0.780	1.810	6	6	sandy silt to clayey silt
6.89	15.90	0.1249	0.785	1.793	6	6	sandy silt to clayey silt
6.96	16.07	0.1315	0.818	1.791	6	6	sandy silt to clayey silt
7.02	16.73	0.1512	0.904	1.835	6	6	sandy silt to clayey silt
7.09	17.25	0.1364	0.790	1.810	7	6	sandy silt to clayey silt
7.15	17.82	0.1179	0.661	1.803	7	6	sandy silt to clayey silt
7.22	18.28	0.1122	0.614	1.963	7	6	sandy silt to clayey silt
7.28	18.92	0.1184	0.626	1.868	7	6	sandy silt to clayey silt
7.35	19.02	0.1074	0.565	1.873	7	6	sandy silt to clayey silt
7.41	18.60	0.1048	0.563	1.915	7	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	17.34	0.0969	0.559	2.649	7	6	sandy silt to clayey silt
7.55	17.47	0.0844	0.483	2.629	7	6	sandy silt to clayey silt
7.61	16.89	0.0665	0.394	2.612	7	6	sandy silt to clayey silt
7.68	16.72	0.0707	0.423	2.595	7	6	sandy silt to clayey silt
7.74	17.77	0.0913	0.514	2.637	7	6	sandy silt to clayey silt
7.81	18.11	0.0919	0.507	2.608	6	6	sandy silt to clayey silt
7.87	16.84	0.0870	0.516	2.574	6	6	sandy silt to clayey silt
7.94	15.91	0.0955	0.600	2.554	6	6	sandy silt to clayey silt
8.01	15.94	0.0993	0.623	2.598	6	6	sandy silt to clayey silt
8.07	16.10	0.1012	0.629	2.612	6	6	sandy silt to clayey silt
8.14	16.12	0.1033	0.641	2.574	6	6	sandy silt to clayey silt
8.20	16.30	0.0940	0.576	2.600	6	6	sandy silt to clayey silt
8.27	17.09	0.0798	0.467	2.595	6	6	sandy silt to clayey silt
8.33	17.47	0.0749	0.428	2.579	6	6	sandy silt to clayey silt
8.40	17.74	0.0716	0.404	2.605	6	6	sandy silt to clayey silt
8.46	17.27	0.0647	0.375	2.608	6	6	sandy silt to clayey silt
8.53	15.69	0.0553	0.353	2.615	6	6	sandy silt to clayey silt
8.60	14.26	0.0614	0.430	2.625	6	6	sandy silt to clayey silt
8.66	14.26	0.0610	0.428	2.649	6	6	sandy silt to clayey silt
8.73	14.91	0.0595	0.399	2.668	6	6	sandy silt to clayey silt
8.79	15.23	0.0568	0.373	2.656	6	6	sandy silt to clayey silt
8.86	15.29	0.0585	0.383	2.680	6	6	sandy silt to clayey silt
8.92	15.24	0.0544	0.357	2.700	6	6	sandy silt to clayey silt
8.99	15.06	0.0443	0.295	2.705	6	6	sandy silt to clayey silt
9.06	14.84	0.0293	0.198	2.705	6	6	sandy silt to clayey silt
9.12	14.91	0.0330	0.221	2.719	6	6	sandy silt to clayey silt
9.19	15.04	0.0610	0.406	2.760	6	6	sandy silt to clayey silt
9.25	14.24	0.0544	0.382	2.734	6	6	sandy silt to clayey silt
9.32	14.11	0.0408	0.289	2.753	6	6	sandy silt to clayey silt
9.38	14.74	0.0442	0.300	2.794	6	6	sandy silt to clayey silt
9.45	17.07	0.0430	0.252	2.806	6	6	sandy silt to clayey silt
9.51	18.48	0.0287	0.155	2.794	6	6	sandy silt to clayey silt
9.58	17.28	0.0267	0.155	2.758	6	6	sandy silt to clayey silt
9.65	15.75	0.0327	0.208	2.775	6	6	sandy silt to clayey silt
9.71	15.12	0.0426	0.282	2.763	6	6	sandy silt to clayey silt
9.78	14.18	0.0441	0.311	2.751	6	6	sandy silt to clayey silt
9.84	13.11	0.0419	0.320	2.751	5	6	sandy silt to clayey silt
9.91	12.81	0.0494	0.385	2.804	5	6	sandy silt to clayey silt
9.97	13.13	0.0523	0.398	2.797	5	6	sandy silt to clayey silt
10.04	13.39	0.0430	0.321	2.794	5	6	sandy silt to clayey silt
10.10	13.05	0.0364	0.279	2.823	5	6	sandy silt to clayey silt
10.17	13.16	0.0292	0.222	2.826	5	6	sandy silt to clayey silt
10.24	13.92	0.0256	0.184	2.884	5	6	sandy silt to clayey silt
10.30	13.44	0.0299	0.222	2.877	5	6	sandy silt to clayey silt
10.37	12.98	0.1103	0.850	2.906	5	6	sandy silt to clayey silt
10.43	13.48	0.0955	0.709	2.937	5	6	sandy silt to clayey silt
10.50	13.50	0.0863	0.639	2.947	5	6	sandy silt to clayey silt
10.56	13.27	0.0897	0.676	3.005	5	6	sandy silt to clayey silt
10.63	13.08	0.0899	0.688	3.010	5	6	sandy silt to clayey silt
10.70	13.90	0.0724	0.521	3.565	5	6	sandy silt to clayey silt
10.76	13.20	0.0566	0.429	3.587	5	6	sandy silt to clayey silt
10.83	12.62	0.0413	0.328	3.623	5	6	sandy silt to clayey silt
10.89	12.42	0.0310	0.250	3.623	5	6	sandy silt to clayey silt
10.96	12.49	0.0307	0.246	3.667	5	6	sandy silt to clayey silt
11.02	12.70	0.0330	0.260	3.664	5	6	sandy silt to clayey silt
11.09	12.64	0.0334	0.264	3.713	5	6	sandy silt to clayey silt
11.15	11.98	0.0409	0.342	3.708	5	6	sandy silt to clayey silt
11.22	11.79	0.0495	0.420	3.744	5	6	sandy silt to clayey silt
11.29	11.52	0.0492	0.427	3.783	4	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	11.08	0.0520	0.469	3.827	4	6	sandy silt to clayey silt
11.42	11.15	0.0510	0.457	3.844	5	6	sandy silt to clayey silt
11.48	11.62	0.0474	0.408	3.873	5	6	sandy silt to clayey silt
11.55	12.51	0.0413	0.330	3.911	5	6	sandy silt to clayey silt
11.61	13.01	0.0448	0.344	3.957	5	6	sandy silt to clayey silt
11.68	13.45	0.0330	0.245	3.967	5	6	sandy silt to clayey silt
11.75	13.07	0.0241	0.184	4.025	5	6	sandy silt to clayey silt
11.81	12.45	0.0204	0.164	4.025	5	6	sandy silt to clayey silt
11.88	12.61	0.0244	0.194	4.064	5	6	sandy silt to clayey silt
11.94	13.15	0.0303	0.231	4.076	5	6	sandy silt to clayey silt
12.01	12.82	0.0269	0.209	4.071	5	6	sandy silt to clayey silt
12.07	12.54	0.0364	0.290	4.086	5	6	sandy silt to clayey silt
12.14	12.47	0.0368	0.295	4.151	5	6	sandy silt to clayey silt
12.20	12.55	0.0338	0.269	4.166	5	6	sandy silt to clayey silt
12.27	12.35	0.0317	0.257	4.188	5	6	sandy silt to clayey silt
12.34	11.61	0.0377	0.325	4.231	4	6	sandy silt to clayey silt
12.40	11.10	0.0520	0.469	4.253	4	6	sandy silt to clayey silt
12.47	10.35	0.0726	0.701	4.251	4	6	sandy silt to clayey silt
12.53	9.24	0.0695	0.752	4.289	4	5	clayey silt to silty clay
12.60	8.08	0.0807	0.999	4.319	4	5	clayey silt to silty clay
12.66	7.05	0.1231	1.744	4.365	4	5	clayey silt to silty clay
12.73	6.39	0.1597	2.499	4.418	5	4	silty clay to clay
12.80	5.83	0.1759	3.018	4.471	5	4	silty clay to clay
12.86	7.64	0.1950	2.553	4.568	5	4	silty clay to clay
12.93	10.98	0.2378	2.165	4.677	8	3	clay
12.99	9.59	0.3337	3.481	4.716	8	3	clay
13.06	8.04	0.3475	4.323	4.745	8	3	clay
13.12	7.08	0.3085	4.355	4.811	8	3	clay
13.19	6.65	0.2777	4.174	4.857	7	3	clay
13.25	6.71	0.2465	3.674	4.924	7	3	clay
13.32	6.64	0.2327	3.503	4.997	7	3	clay
13.39	6.87	0.2356	3.429	5.072	7	3	clay
13.45	7.17	0.2287	3.192	5.164	7	3	clay
13.52	7.14	0.1899	2.660	5.249	7	3	clay
13.58	6.99	0.2012	2.878	5.298	7	3	clay
13.65	6.72	0.1375	2.046	5.365	4	4	silty clay to clay
13.71	6.47	0.1945	3.005	5.404	4	4	silty clay to clay
13.78	6.22	0.1572	2.528	5.472	4	4	silty clay to clay
13.85	6.47	0.1334	2.061	5.550	5	4	silty clay to clay
13.91	7.19	0.1198	1.665	7.573	5	4	silty clay to clay
13.98	8.50	0.1200	1.412	7.585	4	5	clayey silt to silty clay
14.04	9.93	0.1557	1.568	7.779	4	5	clayey silt to silty clay
14.11	10.39	0.1738	1.674	8.077	5	5	clayey silt to silty clay
14.17	10.57	0.2122	2.007	8.373	5	5	clayey silt to silty clay
14.24	11.63	0.2287	1.966	8.797	6	5	clayey silt to silty clay
14.30	12.54	0.2388	1.904	9.180	6	5	clayey silt to silty clay
14.37	13.25	0.2780	2.098	9.648	6	5	clayey silt to silty clay
14.44	13.45	0.3805	2.829	10.251	7	5	clayey silt to silty clay
14.50	13.88	0.4374	3.151	10.840	7	5	clayey silt to silty clay
14.57	14.90	0.4536	3.044	11.543	7	5	clayey silt to silty clay
14.63	16.23	0.3916	2.413	12.517	7	5	clayey silt to silty clay
14.70	17.36	0.3703	2.133	13.622	8	5	clayey silt to silty clay
14.76	17.18	0.3541	2.061	14.441	8	5	clayey silt to silty clay
14.83	16.46	0.3290	1.999	15.452	8	5	clayey silt to silty clay
14.90	15.89	0.3221	2.027	16.656	8	5	clayey silt to silty clay
14.96	15.46	0.3013	1.949	18.105	8	5	clayey silt to silty clay
15.03	15.08	0.2699	1.789	19.358	8	5	clayey silt to silty clay
15.09	15.40	0.2456	1.594	20.708	8	5	clayey silt to silty clay
15.16	15.97	0.2520	1.578	22.303	6	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	16.16	0.2467	1.527	23.798	6	6	sandy silt to clayey silt
15.29	16.20	0.2434	1.503	25.281	6	6	sandy silt to clayey silt
15.35	16.00	0.1997	1.248	27.414	6	6	sandy silt to clayey silt
15.42	15.89	0.1855	1.168	29.336	6	6	sandy silt to clayey silt
15.49	15.78	0.1974	1.251	31.381	6	6	sandy silt to clayey silt
15.55	15.53	0.2284	1.470	34.308	6	6	sandy silt to clayey silt
15.62	15.55	0.2344	1.507	37.241	8	5	clayey silt to silty clay
15.68	15.41	0.2754	1.788	41.276	8	5	clayey silt to silty clay
15.75	16.04	0.2718	1.694	45.405	10	4	silty clay to clay
15.81	16.99	1.0159	5.978	49.411	11	4	silty clay to clay
15.88	17.42	1.0142	5.821	52.387	11	4	silty clay to clay
15.94	17.53	0.8648	4.934	54.852	11	4	silty clay to clay
16.01	17.19	0.7288	4.239	59.037	11	4	silty clay to clay
16.08	16.44	0.5878	3.575	64.277	11	4	silty clay to clay
16.14	21.51	0.4801	2.233	17.315	8	5	clayey silt to silty clay
16.21	18.55	0.4043	2.180	17.800	8	5	clayey silt to silty clay
16.27	16.83	0.3349	1.990	18.605	8	5	clayey silt to silty clay
16.34	16.10	0.2942	1.828	19.506	8	5	clayey silt to silty clay
16.40	15.52	0.2522	1.625	20.577	8	5	clayey silt to silty clay
16.47	14.89	0.2734	1.837	21.942	7	5	clayey silt to silty clay
16.54	14.63	0.3152	2.155	24.554	7	5	clayey silt to silty clay
16.60	14.58	0.3593	2.464	26.900	7	5	clayey silt to silty clay
16.67	14.48	0.3679	2.541	29.057	7	5	clayey silt to silty clay
16.73	14.95	0.3352	2.242	31.442	8	5	clayey silt to silty clay
16.80	16.97	0.2450	1.444	33.644	6	6	sandy silt to clayey silt
16.86	17.84	0.1447	0.811	35.355	6	6	sandy silt to clayey silt
16.93	16.90	0.1228	0.727	36.679	6	6	sandy silt to clayey silt
16.99	15.38	0.1163	0.756	38.484	6	6	sandy silt to clayey silt
17.06	14.12	0.0959	0.679	40.420	6	6	sandy silt to clayey silt
17.13	13.23	0.0942	0.712	42.943	5	6	sandy silt to clayey silt
17.19	12.52	0.0776	0.620	48.585	5	6	sandy silt to clayey silt
17.26	12.57	0.0780	0.620	52.862	5	6	sandy silt to clayey silt
17.32	12.73	0.0860	0.676	56.589	5	6	sandy silt to clayey silt
17.39	12.70	0.0950	0.748	62.214	5	6	sandy silt to clayey silt
17.45	12.87	0.1157	0.899	66.407	5	6	sandy silt to clayey silt
17.52	13.00	0.1116	0.858	70.258	5	6	sandy silt to clayey silt
17.59	13.54	0.1083	0.800	74.268	5	6	sandy silt to clayey silt
17.65	13.33	0.1094	0.821	76.471	5	6	sandy silt to clayey silt
17.72	13.71	0.1244	0.907	79.190	5	6	sandy silt to clayey silt
17.78	13.90	0.1306	0.940	81.253	5	6	sandy silt to clayey silt
17.85	14.13	0.1287	0.911	82.716	5	6	sandy silt to clayey silt
17.91	14.13	0.1209	0.856	84.296	5	6	sandy silt to clayey silt
17.98	14.22	0.1058	0.744	84.461	5	6	sandy silt to clayey silt
18.04	13.99	0.1026	0.733	81.929	5	6	sandy silt to clayey silt
18.11	13.53	0.1029	0.761	81.447	5	6	sandy silt to clayey silt
18.18	13.14	0.0939	0.715	82.433	5	6	sandy silt to clayey silt
18.24	12.80	0.0847	0.662	85.767	5	6	sandy silt to clayey silt
18.31	12.53	0.0722	0.577	88.118	5	6	sandy silt to clayey silt
18.37	12.33	0.0717	0.581	89.994	6	5	clayey silt to silty clay
18.44	12.15	0.3368	2.773	91.998	6	5	clayey silt to silty clay
18.50	12.32	0.2930	2.378	93.796	6	5	clayey silt to silty clay
18.57	12.55	0.3163	2.521	96.118	6	5	clayey silt to silty clay
18.64	12.98	0.3084	2.377	95.878	7	5	clayey silt to silty clay
18.70	13.41	0.3210	2.393	94.654	7	5	clayey silt to silty clay
18.77	18.44	0.3007	1.631	97.848	8	5	clayey silt to silty clay
18.83	18.22	0.3006	1.650	94.870	8	5	clayey silt to silty clay
18.90	18.74	0.3038	1.621	100.878	9	5	clayey silt to silty clay
18.96	19.43	0.3596	1.851	104.639	9	5	clayey silt to silty clay
19.03	20.63	0.4078	1.976	107.239	10	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	20.81	0.4862	2.336	110.850	10	5	clayey silt to silty clay
19.16	21.02	0.5956	2.833	115.869	10	5	clayey silt to silty clay
19.23	21.47	0.6225	2.900	114.907	10	5	clayey silt to silty clay
19.29	20.94	0.6357	3.035	106.728	10	5	clayey silt to silty clay
19.36	21.05	0.5806	2.758	102.976	10	5	clayey silt to silty clay
19.42	22.99	0.5189	2.257	73.660	10	5	clayey silt to silty clay
19.49	21.97	0.5127	2.333	77.176	10	5	clayey silt to silty clay
19.55	21.95	0.4400	2.004	80.816	8	6	sandy silt to clayey silt
19.62	22.09	0.3885	1.758	85.818	8	6	sandy silt to clayey silt
19.69	21.80	0.3703	1.699	90.464	8	6	sandy silt to clayey silt
19.75	21.54	0.3296	1.530	93.617	8	6	sandy silt to clayey silt
19.82	21.26	0.3001	1.412	95.931	8	6	sandy silt to clayey silt
19.88	21.14	0.2446	1.157	97.477	8	6	sandy silt to clayey silt
19.95	20.96	0.2622	1.251	97.427	8	6	sandy silt to clayey silt
20.01	20.69	0.2826	1.366	96.915	8	6	sandy silt to clayey silt
20.08	20.04	0.2438	1.216	96.525	8	6	sandy silt to clayey silt
20.14	19.66	0.1957	0.996	96.057	8	6	sandy silt to clayey silt
20.21	19.36	0.1680	0.868	94.671	7	6	sandy silt to clayey silt
20.28	18.94	0.1465	0.774	93.927	7	6	sandy silt to clayey silt
20.34	17.89	0.1347	0.753	91.409	7	6	sandy silt to clayey silt
20.41	17.11	0.1208	0.706	89.795	7	6	sandy silt to clayey silt
20.47	16.62	0.1243	0.748	89.621	7	6	sandy silt to clayey silt
20.54	16.26	0.1643	1.010	89.657	7	6	sandy silt to clayey silt
20.60	16.15	0.2171	1.344	89.175	7	6	sandy silt to clayey silt
20.67	16.79	0.2124	1.265	90.331	7	6	sandy silt to clayey silt
20.73	20.68	0.1837	0.889	93.813	7	6	sandy silt to clayey silt
20.80	23.36	0.1302	0.557	88.009	7	6	sandy silt to clayey silt
20.87	20.73	0.1232	0.595	77.891	7	6	sandy silt to clayey silt
20.93	17.05	0.1186	0.696	69.577	7	6	sandy silt to clayey silt
21.00	15.09	0.1203	0.797	70.192	7	6	sandy silt to clayey silt
21.06	14.28	0.1171	0.820	74.450	6	6	sandy silt to clayey silt
21.13	14.34	0.1129	0.788	79.682	6	6	sandy silt to clayey silt
21.19	14.74	0.1019	0.691	81.609	6	6	sandy silt to clayey silt
21.26	15.06	0.0912	0.605	80.671	6	6	sandy silt to clayey silt
21.33	15.51	0.0881	0.568	78.786	6	6	sandy silt to clayey silt
21.39	15.85	0.1095	0.691	76.445	6	6	sandy silt to clayey silt
21.46	15.65	0.1358	0.868	72.625	6	6	sandy silt to clayey silt
21.52	15.42	0.1788	1.160	71.334	6	6	sandy silt to clayey silt
21.59	15.40	0.2970	1.929	72.899	6	6	sandy silt to clayey silt
21.65	16.39	0.2405	1.467	74.559	6	6	sandy silt to clayey silt
21.72	17.31	0.2358	1.362	73.241	6	6	sandy silt to clayey silt
21.78	17.02	0.2428	1.427	70.643	6	6	sandy silt to clayey silt
21.85	16.15	0.2078	1.287	64.495	6	6	sandy silt to clayey silt
21.92	15.05	0.2257	1.500	59.522	6	6	sandy silt to clayey silt
21.98	15.46	0.2338	1.512	63.726	8	5	clayey silt to silty clay
22.05	17.54	0.3641	2.075	68.438	8	5	clayey silt to silty clay
22.11	18.17	0.4192	2.308	60.581	8	5	clayey silt to silty clay
22.18	16.47	0.4163	2.528	44.072	9	5	clayey silt to silty clay
22.24	17.09	0.4418	2.586	49.280	10	5	clayey silt to silty clay
22.31	22.46	0.6811	3.033	56.376	11	5	clayey silt to silty clay
22.38	28.18	0.8191	2.907	50.681	15	4	silty clay to clay
22.44	28.36	0.9938	3.505	25.662	15	4	silty clay to clay
22.51	25.70	1.2118	4.715	22.758	16	4	silty clay to clay
22.57	20.95	1.1862	5.662	21.777	13	5	clayey silt to silty clay
22.64	24.88	1.1605	4.664	26.188	15	5	clayey silt to silty clay
22.70	25.44	0.8894	3.496	26.619	14	6	sandy silt to clayey silt
22.77	36.60	0.5346	1.461	31.858	16	6	sandy silt to clayey silt
22.83	54.16	0.3886	0.718	34.745	15	7	silty sand to sandy silt
22.90	62.11	0.5514	0.888	21.859	16	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	62.83	0.9237	1.470	20.742	16	7	silty sand to sandy silt
23.03	57.35	1.1521	2.009	20.141	16	7	silty sand to sandy silt
23.10	47.18	1.0493	2.224	19.838	18	6	sandy silt to clayey silt
23.16	37.51	0.9560	2.549	19.552	17	6	sandy silt to clayey silt
23.23	34.29	0.8734	2.547	19.380	16	6	sandy silt to clayey silt
23.29	32.75	0.8707	2.658	19.300	16	6	sandy silt to clayey silt
23.36	36.75	1.1027	3.001	19.244	16	6	sandy silt to clayey silt
23.43	46.45	1.2679	2.730	19.436	16	6	sandy silt to clayey silt
23.49	50.90	1.3333	2.620	19.891	17	6	sandy silt to clayey silt
23.56	48.43	1.3753	2.840	19.940	18	6	sandy silt to clayey silt
23.62	46.15	1.2872	2.789	19.698	19	6	sandy silt to clayey silt
23.69	45.90	1.3228	2.882	19.559	19	6	sandy silt to clayey silt
23.75	49.75	1.4446	2.903	19.499	19	6	sandy silt to clayey silt
23.82	53.98	1.5708	2.910	19.480	19	6	sandy silt to clayey silt
23.88	51.65	1.6697	3.233	19.320	18	6	sandy silt to clayey silt
23.95	49.51	1.5470	3.125	19.024	18	6	sandy silt to clayey silt
24.02	44.86	1.5233	3.395	18.549	17	6	sandy silt to clayey silt
24.08	38.94	1.2725	3.268	18.016	17	6	sandy silt to clayey silt
24.15	37.31	1.0693	2.866	17.858	18	6	sandy silt to clayey silt
24.21	39.75	0.8553	2.152	18.142	18	6	sandy silt to clayey silt
24.28	50.07	0.8932	1.784	18.767	18	6	sandy silt to clayey silt
24.34	60.73	1.1195	1.843	19.167	18	6	sandy silt to clayey silt
24.41	54.85	1.3439	2.450	18.561	18	6	sandy silt to clayey silt
24.48	46.71	1.4309	3.064	18.285	19	6	sandy silt to clayey silt
24.54	39.69	1.3381	3.372	18.210	20	6	sandy silt to clayey silt
24.61	43.85	1.1421	2.605	18.428	21	6	sandy silt to clayey silt
24.67	56.82	0.8656	1.523	18.774	18	7	silty sand to sandy silt
24.74	71.14	0.8069	1.134	19.189	19	7	silty sand to sandy silt
24.80	73.52	0.9681	1.317	19.075	19	7	silty sand to sandy silt
24.87	66.92	1.2547	1.875	18.631	19	7	silty sand to sandy silt
24.93	56.62	1.5546	2.746	18.195	21	6	sandy silt to clayey silt
25.00	44.76	1.6082	3.593	17.761	19	6	sandy silt to clayey silt
25.07	37.54	1.3237	3.526	17.643	18	6	sandy silt to clayey silt
25.13	31.73	1.3398	4.222	17.747	17	6	sandy silt to clayey silt
25.20	34.77	1.1583	3.332	18.268	18	6	sandy silt to clayey silt
25.26	49.29	1.0263	2.082	19.734	19	6	sandy silt to clayey silt
25.33	63.79	0.9965	1.562	20.088	21	6	sandy silt to clayey silt
25.39	65.47	1.0544	1.611	19.489	19	7	silty sand to sandy silt
25.46	66.47	1.2360	1.859	18.796	20	7	silty sand to sandy silt
25.52	65.70	0.9923	1.510	18.580	21	7	silty sand to sandy silt
25.59	64.87	1.4302	2.205	18.333	24	7	silty sand to sandy silt
25.66	64.76	2.1820	3.369	18.159	29	6	sandy silt to clayey silt
25.72	77.59	2.2219	2.864	18.074	29	6	sandy silt to clayey silt
25.79	114.40	2.2458	1.963	19.160	29	6	sandy silt to clayey silt
25.85	76.66	2.3663	3.087	1.827	30	6	sandy silt to clayey silt
25.92	66.69	1.7169	2.574	1.922	25	7	silty sand to sandy silt
25.98	73.21	1.5298	2.090	1.997	24	7	silty sand to sandy silt
26.05	72.20	1.2804	1.773	2.011	21	7	silty sand to sandy silt
26.12	64.67	0.9749	1.508	1.975	20	7	silty sand to sandy silt
26.18	57.45	0.8135	1.416	1.968	18	7	silty sand to sandy silt
26.25	51.72	0.5380	1.040	1.968	16	7	silty sand to sandy silt
26.31	44.37	0.5058	1.140	1.970	14	7	silty sand to sandy silt
26.38	37.12	0.6922	1.865	1.980	15	6	sandy silt to clayey silt
26.44	31.05	0.9042	2.912	1.965	14	6	sandy silt to clayey silt
26.51	27.11	1.0320	3.807	1.975	13	6	sandy silt to clayey silt
26.57	26.15	0.9165	3.505	1.975	12	6	sandy silt to clayey silt
26.64	29.96	0.8643	2.885	2.067	13	6	sandy silt to clayey silt
26.71	34.27	0.6899	2.013	2.135	13	6	sandy silt to clayey silt
26.77	39.83	0.5172	1.298	2.222	13	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	42.63	0.4712	1.105	2.268	13	6	sandy silt to clayey silt
26.90	37.54	0.6829	1.819	2.288	13	6	sandy silt to clayey silt
26.97	32.46	0.7760	2.391	2.285	12	6	sandy silt to clayey silt
27.03	26.88	0.7633	2.840	2.293	11	6	sandy silt to clayey silt
27.10	22.30	0.7772	3.486	2.363	13	5	clayey silt to silty clay
27.17	22.28	0.6580	2.954	2.457	17	4	silty clay to clay
27.23	25.76	0.8299	3.222	2.579	17	4	silty clay to clay
27.30	28.01	2.1832	7.794	2.671	21	4	silty clay to clay
27.36	29.13	1.1146	3.827	2.753	23	5	clayey silt to silty clay
27.43	35.35	1.6092	4.552	2.852	24	6	sandy silt to clayey silt
27.49	72.13	2.2262	3.087	3.289	29	6	sandy silt to clayey silt
27.56	121.41	2.3334	1.922	3.834	30	7	silty sand to sandy silt
27.62	119.30	2.6867	2.252	3.172	36	7	silty sand to sandy silt
27.69	131.54	2.8560	2.171	3.112	42	7	silty sand to sandy silt
27.76	141.25	2.8248	2.000	3.100	47	7	silty sand to sandy silt
27.82	177.97	2.8570	1.605	3.075	36	8	sand to silty sand
27.89	166.28	2.6465	1.592	2.881	37	8	sand to silty sand
27.95	163.75	2.3704	1.448	2.673	38	8	sand to silty sand
28.02	156.53	1.9683	1.257	2.537	38	8	sand to silty sand
28.08	154.48	1.6926	1.096	2.530	37	8	sand to silty sand
28.15	148.17	1.6283	1.099	2.540	35	8	sand to silty sand
28.22	144.52	1.4084	0.975	2.491	34	8	sand to silty sand
28.28	137.13	1.0107	0.737	2.377	32	8	sand to silty sand
28.35	129.03	0.8410	0.652	2.310	31	8	sand to silty sand
28.41	119.97	0.7724	0.644	2.259	29	8	sand to silty sand
28.48	112.19	0.7308	0.651	2.174	27	8	sand to silty sand
28.54	103.28	0.7285	0.705	2.133	25	8	sand to silty sand
28.61	93.40	0.6921	0.741	2.123	23	8	sand to silty sand
28.67	89.16	0.6278	0.704	2.118	22	8	sand to silty sand
28.74	85.78	0.8985	1.048	2.125	21	8	sand to silty sand
28.81	82.09	0.8707	1.061	2.150	20	8	sand to silty sand
28.87	78.67	0.8529	1.084	2.150	19	8	sand to silty sand
28.94	76.04	0.8820	1.160	2.164	25	7	silty sand to sandy silt
29.00	73.16	0.9666	1.321	2.239	24	7	silty sand to sandy silt
29.07	74.89	1.0652	1.422	8.448	23	7	silty sand to sandy silt
29.13	70.75	1.0863	1.535	8.448	23	7	silty sand to sandy silt
29.20	66.31	1.0917	1.646	8.562	23	7	silty sand to sandy silt
29.27	67.15	1.2777	1.903	8.710	0	0	<out of range>
29.33	70.26	1.5566	2.215	9.013	0	0	<out of range>
29.40	80.06	1.6089	2.010	9.408	34	8	sand to silty sand
29.46	96.17	-32768	-32768	9.791	0	0	<out of range>
29.53	122.47	-32768	-32768	10.290	0	0	<out of range>
29.59	161.68	-32768	-32768	8.945	0	0	<out of range>
29.66	251.08	-32768	-32768	7.619	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

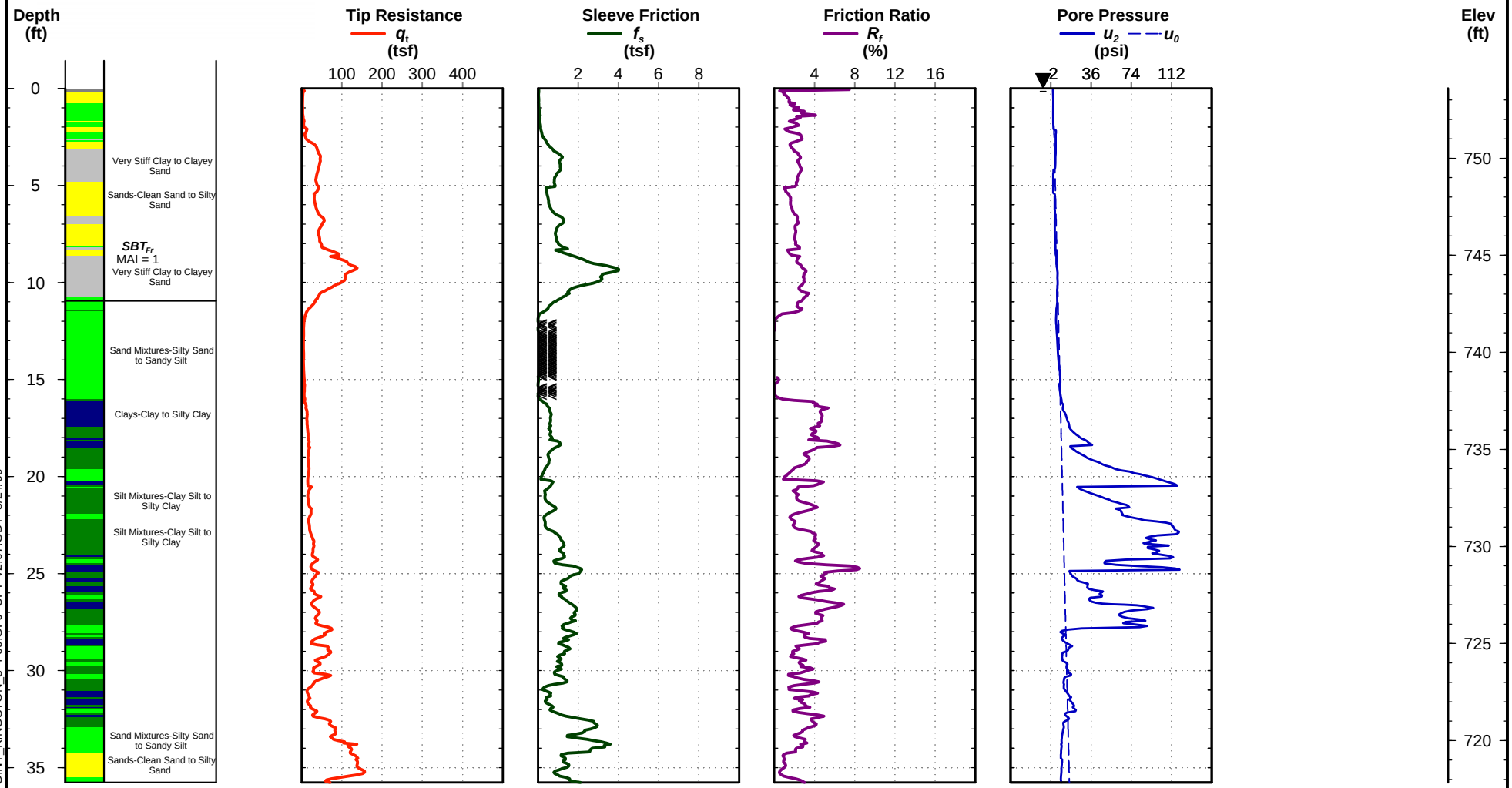
09-205-C1

Project No: 60095742

Date: Jan. 24, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557910.23
Easting: 2440983.58
Elevation: 753.6 NGVD

Total Depth: 35.8 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

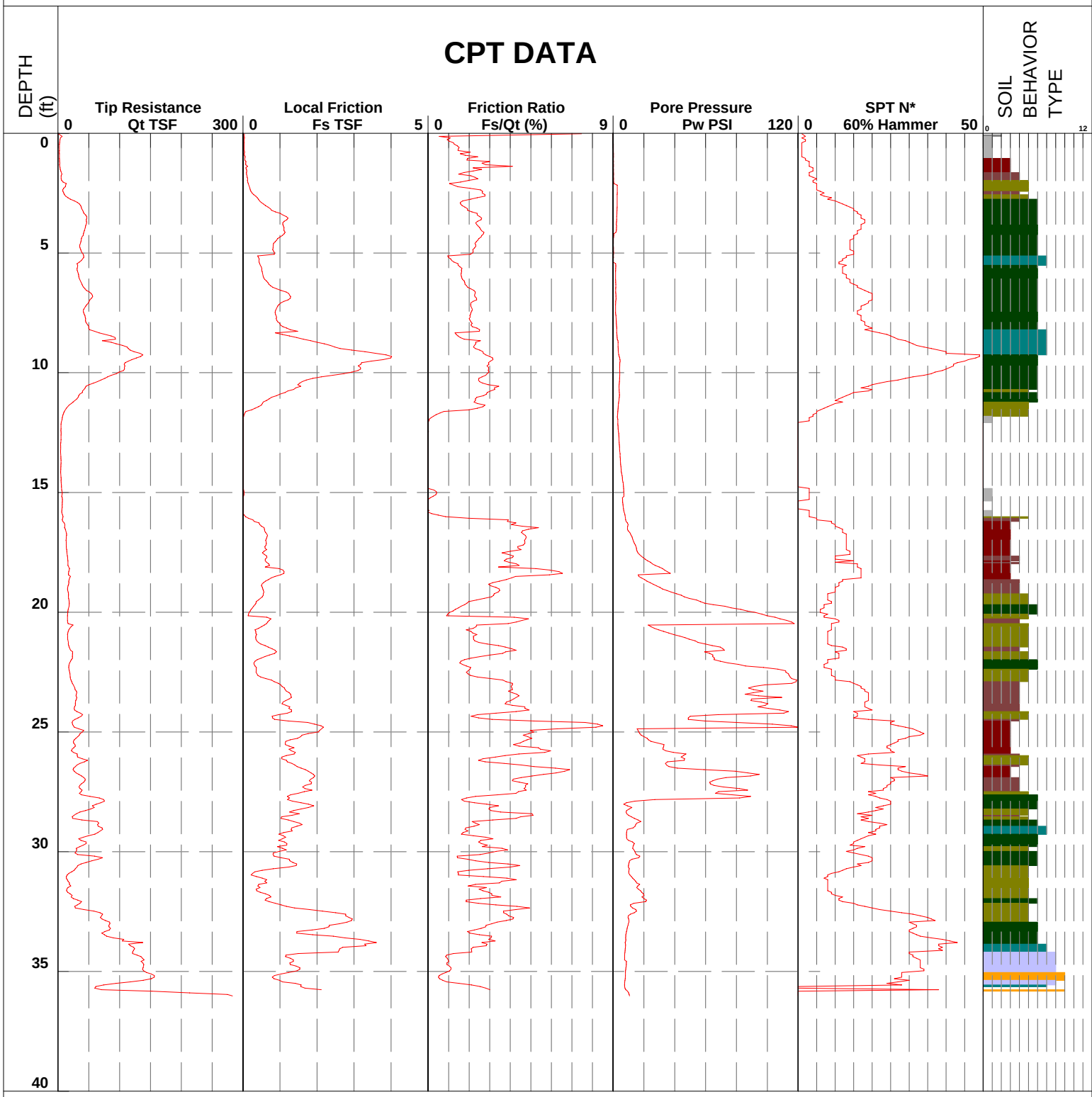
09-205-C1

Electronic Filename: 09-205-C1.cpt

AECOM

09-205-C1	60095742	1/24/2009 9:27:15 AM
DSG0870	TVA-Kingston	CAP CME-750

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-205-C1 1/24/2009 9:27:15 AM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:English

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.5	0.039	7.467	0.05	1	2	organic material
0.13	6.7	0.036	0.542	0.08	2	1	sensitive fine grained
0.20	3.8	0.041	1.075	0.08	1	1	sensitive fine grained
0.26	3.2	0.030	0.930	0.08	2	1	sensitive fine grained
0.33	3.0	0.031	1.023	0.12	2	1	sensitive fine grained
0.39	2.7	0.033	1.225	0.19	1	1	sensitive fine grained
0.46	2.5	0.032	1.278	0.22	1	1	sensitive fine grained
0.52	2.5	0.036	1.431	0.23	1	1	sensitive fine grained
0.59	2.4	0.037	1.510	0.23	1	1	sensitive fine grained
0.66	2.5	0.037	1.472	0.26	1	1	sensitive fine grained
0.72	2.4	0.034	1.458	0.26	1	1	sensitive fine grained
0.79	2.1	0.043	2.055	0.27	1	1	sensitive fine grained
0.85	2.3	0.036	1.570	0.28	1	1	sensitive fine grained
0.92	2.3	0.041	1.806	0.28	1	1	sensitive fine grained
0.98	2.5	0.060	2.413	0.28	1	1	sensitive fine grained
1.05	2.5	0.048	1.920	0.25	2	3	clay
1.12	2.6	0.050	1.890	0.27	2	3	clay
1.18	2.7	0.080	2.994	0.32	3	3	clay
1.25	2.9	0.075	2.626	0.26	3	3	clay
1.31	2.6	0.073	2.803	0.32	3	3	clay
1.38	3.0	0.121	4.102	0.30	3	3	clay
1.44	3.6	0.078	2.191	0.27	4	3	clay
1.51	3.7	0.098	2.604	0.32	4	3	clay
1.57	4.6	0.101	2.202	0.31	4	3	clay
1.64	5.5	0.095	1.746	0.29	3	4	silty clay to clay
1.71	6.4	0.096	1.491	0.34	3	4	silty clay to clay
1.77	5.2	0.108	2.075	0.29	3	4	silty clay to clay
1.84	5.0	0.115	2.284	0.33	4	4	silty clay to clay
1.90	5.3	0.128	2.428	0.34	5	4	silty clay to clay
1.97	6.1	0.119	1.965	0.35	4	5	clayey silt to silty clay
2.03	8.3	0.131	1.582	0.38	4	5	clayey silt to silty clay
2.10	13.4	0.140	1.041	0.50	5	5	clayey silt to silty clay
2.17	12.6	0.157	1.244	2.71	5	5	clayey silt to silty clay
2.23	11.9	0.172	1.448	2.72	5	5	clayey silt to silty clay
2.30	9.1	0.186	2.038	2.72	5	5	clayey silt to silty clay
2.36	7.7	0.197	2.553	2.68	5	5	clayey silt to silty clay
2.43	8.1	0.216	2.654	2.68	6	4	silty clay to clay
2.49	9.3	0.245	2.628	2.67	7	4	silty clay to clay
2.56	10.4	0.288	2.767	2.65	6	5	clayey silt to silty clay
2.62	12.4	0.344	2.766	2.63	7	5	clayey silt to silty clay
2.69	16.1	0.384	2.384	2.64	9	5	clayey silt to silty clay
2.76	20.1	0.417	2.071	2.61	8	6	sandy silt to clayey silt
2.82	26.7	0.450	1.687	2.64	10	6	sandy silt to clayey silt
2.89	31.6	0.496	1.569	2.64	11	6	sandy silt to clayey silt
2.95	34.8	0.550	1.582	2.63	12	6	sandy silt to clayey silt
3.02	36.7	0.608	1.657	2.62	13	6	sandy silt to clayey silt
3.08	37.8	0.678	1.792	2.61	14	6	sandy silt to clayey silt
3.15	38.4	0.736	1.915	2.56	15	6	sandy silt to clayey silt
3.22	40.2	0.772	1.922	2.55	15	6	sandy silt to clayey silt
3.28	41.2	0.878	2.133	2.52	16	6	sandy silt to clayey silt
3.35	42.1	1.005	2.385	2.49	16	6	sandy silt to clayey silt
3.41	45.1	1.081	2.396	2.45	17	6	sandy silt to clayey silt
3.48	46.5	1.167	2.509	2.42	17	6	sandy silt to clayey silt
3.54	46.7	1.218	2.608	2.34	17	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	46.0	1.186	2.578	2.33	18	6	sandy silt to clayey silt
3.67	46.1	1.112	2.411	2.26	18	6	sandy silt to clayey silt
3.74	46.4	1.076	2.318	2.22	18	6	sandy silt to clayey silt
3.81	45.6	1.077	2.361	2.17	17	6	sandy silt to clayey silt
3.87	45.0	1.093	2.431	2.24	17	6	sandy silt to clayey silt
3.94	44.2	1.111	2.512	2.20	17	6	sandy silt to clayey silt
4.00	43.4	1.108	2.549	2.22	17	6	sandy silt to clayey silt
4.07	42.7	1.111	2.603	2.14	16	6	sandy silt to clayey silt
4.13	41.8	1.137	2.718	1.86	16	6	sandy silt to clayey silt
4.20	41.3	1.114	2.697	0.57	16	6	sandy silt to clayey silt
4.27	40.7	1.064	2.616	0.44	15	6	sandy silt to clayey silt
4.33	38.8	0.999	2.575	0.37	15	6	sandy silt to clayey silt
4.40	38.0	0.940	2.476	0.26	15	6	sandy silt to clayey silt
4.46	37.6	0.912	2.424	0.24	14	6	sandy silt to clayey silt
4.53	37.1	0.870	2.347	0.23	14	6	sandy silt to clayey silt
4.59	36.3	0.827	2.278	0.24	14	6	sandy silt to clayey silt
4.66	35.4	0.820	2.318	0.21	14	6	sandy silt to clayey silt
4.72	35.1	0.815	2.323	0.25	14	6	sandy silt to clayey silt
4.79	35.9	0.812	2.262	0.28	14	6	sandy silt to clayey silt
4.86	36.9	0.804	2.177	0.29	14	6	sandy silt to clayey silt
4.92	37.7	0.826	2.193	0.29	15	6	sandy silt to clayey silt
4.99	38.9	0.849	2.185	0.34	15	6	sandy silt to clayey silt
5.05	40.9	0.845	2.063	0.32	15	6	sandy silt to clayey silt
5.12	41.6	0.399	0.958	0.25	13	7	silty sand to sandy silt
5.18	41.7	0.415	0.995	0.28	13	7	silty sand to sandy silt
5.25	39.8	0.440	1.105	0.16	12	7	silty sand to sandy silt
5.31	37.8	0.435	1.149	0.15	12	7	silty sand to sandy silt
5.38	34.7	0.437	1.258	0.20	11	7	silty sand to sandy silt
5.45	31.0	0.451	1.457	1.74	11	7	silty sand to sandy silt
5.51	32.0	0.469	1.464	1.76	13	6	sandy silt to clayey silt
5.58	31.7	0.492	1.553	1.75	12	6	sandy silt to clayey silt
5.64	31.1	0.511	1.645	1.71	12	6	sandy silt to clayey silt
5.71	31.1	0.505	1.621	1.69	12	6	sandy silt to clayey silt
5.77	31.7	0.517	1.634	1.68	12	6	sandy silt to clayey silt
5.84	32.7	0.527	1.613	1.66	12	6	sandy silt to clayey silt
5.91	33.4	0.536	1.606	1.66	13	6	sandy silt to clayey silt
5.97	33.7	0.547	1.622	1.66	13	6	sandy silt to clayey silt
6.04	34.2	0.562	1.642	1.65	13	6	sandy silt to clayey silt
6.10	35.2	0.590	1.674	1.67	14	6	sandy silt to clayey silt
6.17	36.3	0.636	1.754	1.72	14	6	sandy silt to clayey silt
6.23	37.7	0.672	1.782	1.74	14	6	sandy silt to clayey silt
6.30	39.0	0.700	1.796	1.77	15	6	sandy silt to clayey silt
6.36	39.9	0.744	1.867	1.75	16	6	sandy silt to clayey silt
6.43	41.7	0.806	1.933	1.76	16	6	sandy silt to clayey silt
6.50	43.8	0.908	2.075	1.73	17	6	sandy silt to clayey silt
6.56	46.1	1.031	2.236	1.71	18	6	sandy silt to clayey silt
6.63	51.0	1.172	2.300	1.72	19	6	sandy silt to clayey silt
6.69	54.0	1.235	2.288	1.78	20	6	sandy silt to clayey silt
6.76	55.7	1.262	2.264	1.83	20	6	sandy silt to clayey silt
6.82	56.2	1.286	2.287	1.85	20	6	sandy silt to clayey silt
6.89	54.2	1.280	2.360	1.88	20	6	sandy silt to clayey silt
6.96	51.6	1.220	2.365	1.82	20	6	sandy silt to clayey silt
7.02	50.6	1.109	2.192	1.74	19	6	sandy silt to clayey silt
7.09	49.2	1.022	2.077	1.69	19	6	sandy silt to clayey silt
7.15	46.9	0.972	2.073	1.66	18	6	sandy silt to clayey silt
7.22	45.1	0.937	2.078	1.68	17	6	sandy silt to clayey silt
7.28	43.3	0.916	2.113	1.65	17	6	sandy silt to clayey silt
7.35	41.7	0.897	2.154	1.65	17	6	sandy silt to clayey silt
7.41	41.1	0.877	2.134	1.65	16	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	41.5	0.867	2.087	1.68	16	6	sandy silt to clayey silt
7.55	42.4	0.877	2.068	1.73	16	6	sandy silt to clayey silt
7.61	43.8	0.893	2.037	1.83	17	6	sandy silt to clayey silt
7.68	44.2	0.906	2.051	1.91	17	6	sandy silt to clayey silt
7.74	44.9	0.899	2.000	1.99	17	6	sandy silt to clayey silt
7.81	44.8	0.914	2.042	2.06	17	6	sandy silt to clayey silt
7.87	45.1	0.942	2.087	2.12	18	6	sandy silt to clayey silt
7.94	46.4	0.993	2.141	2.14	18	6	sandy silt to clayey silt
8.01	48.4	1.011	2.087	2.19	18	6	sandy silt to clayey silt
8.07	50.1	1.076	2.150	2.24	19	6	sandy silt to clayey silt
8.14	49.7	1.183	2.377	2.30	20	6	sandy silt to clayey silt
8.20	51.0	1.279	2.508	2.34	18	7	silty sand to sandy silt
8.27	59.3	1.479	2.494	2.37	20	7	silty sand to sandy silt
8.33	66.7	0.875	1.312	2.42	22	7	silty sand to sandy silt
8.40	76.9	1.058	1.375	2.50	24	7	silty sand to sandy silt
8.46	86.2	1.253	1.454	2.55	25	7	silty sand to sandy silt
8.53	92.6	1.447	1.562	2.61	26	7	silty sand to sandy silt
8.60	93.1	1.633	1.754	2.71	27	7	silty sand to sandy silt
8.66	71.9	1.830	2.545	3.18	29	7	silty sand to sandy silt
8.73	86.5	2.003	2.316	3.24	30	7	silty sand to sandy silt
8.79	94.5	2.191	2.320	3.24	31	7	silty sand to sandy silt
8.86	104.9	2.363	2.251	3.24	32	7	silty sand to sandy silt
8.92	112.2	2.480	2.211	3.27	34	7	silty sand to sandy silt
8.99	114.0	2.620	2.299	3.30	36	7	silty sand to sandy silt
9.06	117.0	2.942	2.514	3.33	38	7	silty sand to sandy silt
9.12	123.4	3.294	2.670	3.40	40	7	silty sand to sandy silt
9.19	133.0	3.576	2.689	3.56	40	7	silty sand to sandy silt
9.25	137.8	3.867	2.806	3.69	49	6	sandy silt to clayey silt
9.32	134.2	4.018	2.995	3.96	49	6	sandy silt to clayey silt
9.38	127.4	3.994	3.136	4.26	48	6	sandy silt to clayey silt
9.45	119.9	3.785	3.158	4.45	46	6	sandy silt to clayey silt
9.51	114.3	3.471	3.038	4.51	45	6	sandy silt to clayey silt
9.58	109.0	3.204	2.939	4.43	43	6	sandy silt to clayey silt
9.65	107.4	3.182	2.962	4.36	42	6	sandy silt to clayey silt
9.71	108.5	3.111	2.867	4.33	42	6	sandy silt to clayey silt
9.78	107.7	3.175	2.948	4.27	41	6	sandy silt to clayey silt
9.84	107.9	3.178	2.946	4.27	40	6	sandy silt to clayey silt
9.91	106.1	3.106	2.926	4.28	39	6	sandy silt to clayey silt
9.97	99.2	2.942	2.967	4.35	37	6	sandy silt to clayey silt
10.04	94.8	2.723	2.872	4.37	36	6	sandy silt to clayey silt
10.10	86.5	2.424	2.802	4.38	34	6	sandy silt to clayey silt
10.17	80.5	2.113	2.623	4.31	31	6	sandy silt to clayey silt
10.24	76.1	1.887	2.478	4.22	29	6	sandy silt to clayey silt
10.30	69.7	1.710	2.455	4.17	27	6	sandy silt to clayey silt
10.37	63.9	1.599	2.503	4.07	24	6	sandy silt to clayey silt
10.43	57.8	1.533	2.654	4.04	22	6	sandy silt to clayey silt
10.50	50.5	1.480	2.930	3.98	20	6	sandy silt to clayey silt
10.56	45.3	1.558	3.438	3.94	19	6	sandy silt to clayey silt
10.63	44.1	1.424	3.227	3.95	17	6	sandy silt to clayey silt
10.70	42.3	1.371	3.242	3.95	20	5	clayey silt to silty clay
10.76	39.9	1.214	3.043	3.96	19	5	clayey silt to silty clay
10.83	39.6	1.138	2.876	4.06	15	6	sandy silt to clayey silt
10.89	35.0	0.992	2.832	4.11	14	6	sandy silt to clayey silt
10.96	33.7	0.907	2.693	4.10	13	6	sandy silt to clayey silt
11.02	32.6	0.774	2.372	4.01	12	6	sandy silt to clayey silt
11.09	30.7	0.707	2.303	3.91	11	6	sandy silt to clayey silt
11.15	27.7	0.637	2.304	3.78	10	6	sandy silt to clayey silt
11.22	24.5	0.547	2.238	3.64	12	5	clayey silt to silty clay
11.29	21.8	0.522	2.401	3.53	10	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	17.9	0.497	2.772	3.37	9	5	clayey silt to silty clay
11.42	15.7	0.421	2.675	3.31	8	5	clayey silt to silty clay
11.48	13.7	0.327	2.391	3.24	7	5	clayey silt to silty clay
11.55	11.9	0.236	1.975	3.18	6	5	clayey silt to silty clay
11.61	10.3	0.079	0.772	3.10	5	5	clayey silt to silty clay
11.68	9.3	0.055	0.588	3.01	5	5	clayey silt to silty clay
11.75	8.3	0.033	0.396	2.94	4	5	clayey silt to silty clay
11.81	7.6	0.020	0.261	2.80	4	1	sensitive fine grained
11.88	7.1	0.011	0.149	2.83	3	1	sensitive fine grained
11.94	6.7	0.004	0.056	3.10	3	1	sensitive fine grained
12.01	6.0	0.002	0.037	3.06	3	1	sensitive fine grained
12.07	5.4	-0.004	-0.080	3.09	0	0	<out of range>
12.14	5.0	-0.008	-0.160	3.10	0	0	<out of range>
12.20	4.9	-0.004	-0.077	3.20	0	0	<out of range>
12.27	4.9	-0.003	-0.058	3.25	0	0	<out of range>
12.34	4.9	0.000	-0.010	3.27	0	0	<out of range>
12.40	4.8	0.001	0.012	3.36	0	0	<out of range>
12.47	4.9	0.001	0.025	3.48	0	0	<out of range>
12.53	5.0	-0.004	-0.073	3.68	0	0	<out of range>
12.60	4.9	-0.003	-0.057	3.68	0	0	<out of range>
12.66	4.9	-0.006	-0.125	3.76	0	0	<out of range>
12.73	4.9	-0.008	-0.159	3.81	0	0	<out of range>
12.80	4.9	-0.008	-0.159	3.86	0	0	<out of range>
12.86	4.7	-0.009	-0.185	3.93	0	0	<out of range>
12.93	4.5	-0.004	-0.083	3.98	0	0	<out of range>
12.99	4.3	-0.004	-0.103	4.02	0	0	<out of range>
13.06	4.5	-0.006	-0.135	4.11	0	0	<out of range>
13.12	4.5	-0.005	-0.104	4.16	0	0	<out of range>
13.19	4.4	-0.004	-0.097	4.25	0	0	<out of range>
13.25	4.3	-0.002	-0.057	4.31	0	0	<out of range>
13.32	4.4	-0.002	-0.046	4.42	0	0	<out of range>
13.39	4.4	-0.003	-0.071	4.51	0	0	<out of range>
13.45	4.6	-0.005	-0.117	4.57	0	0	<out of range>
13.52	4.7	-0.007	-0.152	4.62	0	0	<out of range>
13.58	4.8	-0.010	-0.219	4.69	0	0	<out of range>
13.65	4.9	-0.015	-0.313	4.73	0	0	<out of range>
13.71	5.0	-0.017	-0.351	4.80	0	0	<out of range>
13.78	4.9	-0.018	-0.365	4.82	0	0	<out of range>
13.85	4.8	-0.019	-0.404	4.92	0	0	<out of range>
13.91	4.8	-0.016	-0.328	5.07	0	0	<out of range>
13.98	4.7	-0.014	-0.308	5.17	0	0	<out of range>
14.04	4.6	-0.012	-0.266	5.25	0	0	<out of range>
14.11	4.5	-0.014	-0.322	5.35	0	0	<out of range>
14.17	4.4	-0.015	-0.344	5.44	0	0	<out of range>
14.24	4.6	-0.018	-0.399	5.70	0	0	<out of range>
14.30	4.7	-0.016	-0.336	5.89	0	0	<out of range>
14.37	4.9	-0.013	-0.262	6.02	0	0	<out of range>
14.44	5.0	-0.017	-0.336	6.08	0	0	<out of range>
14.50	4.9	-0.015	-0.316	6.19	0	0	<out of range>
14.57	5.1	-0.014	-0.268	6.43	0	0	<out of range>
14.63	5.4	-0.009	-0.164	6.63	0	0	<out of range>
14.70	5.7	-0.004	-0.079	6.69	0	0	<out of range>
14.76	5.7	-0.009	-0.165	6.81	0	0	<out of range>
14.83	5.8	-0.015	-0.262	6.87	3	1	sensitive fine grained
14.90	6.0	0.017	0.283	6.89	3	1	sensitive fine grained
14.96	6.5	0.026	0.402	6.94	3	1	sensitive fine grained
15.03	6.9	0.029	0.418	7.03	3	1	sensitive fine grained
15.09	6.6	0.025	0.383	6.98	3	1	sensitive fine grained
15.16	6.2	0.015	0.249	7.02	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	7.0	0.007	0.103	6.05	3	1	sensitive fine grained
15.29	7.2	0.001	0.010	6.16	3	1	sensitive fine grained
15.35	7.2	-0.001	-0.019	6.21	0	0	<out of range>
15.42	7.1	-0.013	-0.190	6.27	0	0	<out of range>
15.49	6.8	-0.011	-0.168	6.37	0	0	<out of range>
15.55	6.8	-0.011	-0.168	6.48	0	0	<out of range>
15.62	7.1	-0.010	-0.142	6.63	0	0	<out of range>
15.68	6.5	-0.003	-0.050	6.76	0	0	<out of range>
15.75	6.3	0.002	0.035	6.95	3	1	sensitive fine grained
15.81	6.2	-0.004	-0.062	7.17	3	1	sensitive fine grained
15.88	6.5	0.011	0.172	7.52	3	1	sensitive fine grained
15.94	7.5	0.036	0.485	7.73	3	1	sensitive fine grained
16.01	8.3	0.071	0.855	7.93	3	5	clayey silt to silty clay
16.08	7.5	0.148	1.972	8.04	5	4	silty clay to clay
16.14	6.9	0.268	3.912	8.14	5	4	silty clay to clay
16.21	7.9	0.304	3.860	8.45	9	3	clay
16.27	10.1	0.434	4.273	9.23	9	3	clay
16.34	11.2	0.454	4.054	9.82	10	3	clay
16.40	11.0	0.501	4.574	9.47	10	3	clay
16.47	10.6	0.569	5.367	9.33	11	3	clay
16.54	11.9	0.580	4.884	9.38	12	3	clay
16.60	12.8	0.586	4.593	9.81	12	3	clay
16.67	13.4	0.610	4.544	10.80	12	3	clay
16.73	13.9	0.644	4.633	11.36	13	3	clay
16.80	14.0	0.663	4.734	11.76	13	3	clay
16.86	13.5	0.646	4.776	12.34	13	3	clay
16.93	13.3	0.632	4.747	12.67	13	3	clay
16.99	13.1	0.613	4.692	13.05	13	3	clay
17.06	13.3	0.625	4.712	13.39	13	3	clay
17.13	13.5	0.633	4.706	13.84	13	3	clay
17.19	13.5	0.623	4.622	14.54	13	3	clay
17.26	13.6	0.592	4.357	14.91	13	3	clay
17.32	13.7	0.598	4.377	15.13	13	3	clay
17.39	14.1	0.637	4.527	15.26	13	3	clay
17.45	14.3	0.573	4.007	15.64	14	3	clay
17.52	14.6	0.526	3.598	16.10	14	3	clay
17.59	14.8	0.579	3.901	17.05	14	3	clay
17.65	15.3	0.638	4.160	18.15	10	4	silty clay to clay
17.72	15.7	0.645	4.109	19.41	10	4	silty clay to clay
17.78	15.8	0.601	3.802	20.81	10	4	silty clay to clay
17.85	16.2	0.599	3.699	22.38	15	3	clay
17.91	16.3	0.639	3.933	24.26	10	4	silty clay to clay
17.98	16.2	0.694	4.292	25.41	16	3	clay
18.04	16.2	0.718	4.427	27.32	16	3	clay
18.11	17.5	0.599	3.425	29.97	16	3	clay
18.18	18.6	0.977	5.243	32.13	17	3	clay
18.24	18.3	1.082	5.924	33.39	17	3	clay
18.31	17.4	1.110	6.371	35.15	17	3	clay
18.37	16.9	1.107	6.536	37.11	17	3	clay
18.44	17.2	1.015	5.902	16.29	17	3	clay
18.50	20.4	0.869	4.256	16.69	17	3	clay
18.57	18.8	0.763	4.061	18.39	17	3	clay
18.64	18.2	0.690	3.798	20.44	12	4	silty clay to clay
18.70	17.5	0.609	3.477	21.98	12	4	silty clay to clay
18.77	17.6	0.555	3.150	24.00	11	4	silty clay to clay
18.83	17.3	0.510	2.939	26.03	11	4	silty clay to clay
18.90	16.4	0.501	3.054	28.18	11	4	silty clay to clay
18.96	15.8	0.522	3.306	30.41	10	4	silty clay to clay
19.03	15.5	0.537	3.460	32.03	10	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	15.8	0.551	3.483	34.94	10	4	silty clay to clay
19.16	16.6	0.565	3.406	37.76	10	4	silty clay to clay
19.23	17.1	0.548	3.213	41.14	8	5	clayey silt to silty clay
19.29	17.1	0.546	3.188	44.25	8	5	clayey silt to silty clay
19.36	16.8	0.520	3.088	46.21	8	5	clayey silt to silty clay
19.42	17.3	0.469	2.715	49.46	8	5	clayey silt to silty clay
19.49	17.8	0.418	2.354	54.07	8	5	clayey silt to silty clay
19.55	18.2	0.361	1.982	56.58	9	5	clayey silt to silty clay
19.62	18.4	0.349	1.891	59.28	9	5	clayey silt to silty clay
19.69	18.3	0.325	1.780	64.79	7	6	sandy silt to clayey silt
19.75	17.9	0.287	1.606	72.46	7	6	sandy silt to clayey silt
19.82	17.3	0.257	1.481	76.50	7	6	sandy silt to clayey silt
19.88	16.6	0.220	1.324	82.83	6	6	sandy silt to clayey silt
19.95	16.2	0.197	1.212	86.94	6	6	sandy silt to clayey silt
20.01	15.8	0.163	1.034	92.45	6	6	sandy silt to clayey silt
20.08	15.7	0.150	0.959	96.55	8	5	clayey silt to silty clay
20.14	15.4	0.138	0.897	99.94	7	5	clayey silt to silty clay
20.21	15.5	0.648	4.190	105.06	7	5	clayey silt to silty clay
20.28	15.5	0.756	4.885	108.30	10	4	silty clay to clay
20.34	15.5	0.707	4.568	112.61	11	4	silty clay to clay
20.41	15.6	0.669	4.297	115.70	11	4	silty clay to clay
20.47	16.4	0.638	3.899	117.51	9	5	clayey silt to silty clay
20.54	24.4	0.577	2.364	22.78	9	5	clayey silt to silty clay
20.60	21.3	0.499	2.342	24.57	9	5	clayey silt to silty clay
20.67	19.2	0.421	2.194	26.86	9	5	clayey silt to silty clay
20.73	17.6	0.328	1.859	29.61	9	5	clayey silt to silty clay
20.80	16.5	0.346	2.093	32.76	8	5	clayey silt to silty clay
20.87	16.0	0.347	2.176	36.10	8	5	clayey silt to silty clay
20.93	15.5	0.369	2.377	39.30	8	5	clayey silt to silty clay
21.00	15.7	0.347	2.208	43.36	8	5	clayey silt to silty clay
21.06	15.6	0.345	2.209	46.68	8	5	clayey silt to silty clay
21.13	15.8	0.349	2.212	49.37	8	5	clayey silt to silty clay
21.19	16.3	0.372	2.273	53.25	8	5	clayey silt to silty clay
21.26	16.8	0.414	2.466	55.06	8	5	clayey silt to silty clay
21.33	16.6	0.478	2.872	59.80	8	5	clayey silt to silty clay
21.39	17.4	0.596	3.425	64.24	9	5	clayey silt to silty clay
21.46	18.2	0.682	3.755	69.44	12	4	silty clay to clay
21.52	19.3	0.785	4.070	71.22	13	4	silty clay to clay
21.59	20.3	0.869	4.280	72.24	13	4	silty clay to clay
21.65	23.9	0.904	3.779	59.33	10	5	clayey silt to silty clay
21.72	23.6	0.856	3.623	62.72	11	5	clayey silt to silty clay
21.78	23.5	0.714	3.030	64.68	11	5	clayey silt to silty clay
21.85	23.3	0.592	2.539	64.63	11	5	clayey silt to silty clay
21.92	23.5	0.487	2.076	65.71	11	5	clayey silt to silty clay
21.98	21.9	0.389	1.774	65.49	8	6	sandy silt to clayey silt
22.05	20.4	0.327	1.602	69.46	8	6	sandy silt to clayey silt
22.11	19.0	0.293	1.544	74.52	8	6	sandy silt to clayey silt
22.18	18.1	0.302	1.669	81.41	7	6	sandy silt to clayey silt
22.24	17.6	0.327	1.860	85.90	7	6	sandy silt to clayey silt
22.31	17.5	0.363	2.072	97.65	7	6	sandy silt to clayey silt
22.38	17.7	0.360	2.034	106.88	9	5	clayey silt to silty clay
22.44	18.5	0.360	1.950	111.91	9	5	clayey silt to silty clay
22.51	18.9	0.353	1.864	112.04	9	5	clayey silt to silty clay
22.57	19.5	0.378	1.939	113.71	9	5	clayey silt to silty clay
22.64	19.6	0.404	2.062	114.16	9	5	clayey silt to silty clay
22.70	20.0	0.477	2.388	114.79	10	5	clayey silt to silty clay
22.77	20.3	0.619	3.050	115.78	10	5	clayey silt to silty clay
22.83	21.2	0.771	3.642	119.00	10	5	clayey silt to silty clay
22.90	22.2	0.842	3.793	118.71	14	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	23.3	0.956	4.104	115.89	15	4	silty clay to clay
23.03	24.9	1.021	4.103	98.58	16	4	silty clay to clay
23.10	26.1	1.053	4.042	91.50	17	4	silty clay to clay
23.16	27.4	1.117	4.084	87.85	17	4	silty clay to clay
23.23	27.7	1.137	4.102	91.01	18	4	silty clay to clay
23.29	30.0	1.173	3.905	97.26	18	4	silty clay to clay
23.36	30.5	1.247	4.089	91.01	19	4	silty clay to clay
23.43	29.8	1.285	4.314	85.57	19	4	silty clay to clay
23.49	29.3	1.297	4.424	94.48	19	4	silty clay to clay
23.56	30.5	1.310	4.290	109.39	19	4	silty clay to clay
23.62	29.9	1.244	4.155	89.71	19	4	silty clay to clay
23.69	28.8	1.155	4.018	89.36	19	4	silty clay to clay
23.75	28.4	1.082	3.815	96.04	18	4	silty clay to clay
23.82	28.1	1.054	3.750	100.40	18	4	silty clay to clay
23.88	28.3	1.160	4.097	98.65	18	4	silty clay to clay
23.95	26.9	1.265	4.706	93.86	18	4	silty clay to clay
24.02	26.2	1.238	4.718	100.68	19	4	silty clay to clay
24.08	26.7	1.313	4.910	108.20	20	4	silty clay to clay
24.15	30.7	1.313	4.281	113.66	15	5	clayey silt to silty clay
24.21	36.4	1.201	3.300	110.65	16	5	clayey silt to silty clay
24.28	39.9	0.964	2.415	68.31	16	5	clayey silt to silty clay
24.34	37.7	0.790	2.096	50.06	16	5	clayey silt to silty clay
24.41	32.4	0.799	2.463	48.76	15	5	clayey silt to silty clay
24.48	27.5	0.856	3.112	48.74	19	4	silty clay to clay
24.54	23.8	1.223	5.145	59.53	26	3	clay
24.61	22.9	1.751	7.640	80.01	25	3	clay
24.67	23.4	1.933	8.256	103.25	25	3	clay
24.74	24.8	2.107	8.501	115.52	27	3	clay
24.80	26.6	2.176	8.167	119.76	29	3	clay
24.87	33.8	2.124	6.278	15.54	31	3	clay
24.93	41.6	2.070	4.971	16.14	32	3	clay
25.00	39.5	2.031	5.138	16.67	33	3	clay
25.07	35.8	1.762	4.916	17.35	34	3	clay
25.13	34.4	1.593	4.627	18.25	33	3	clay
25.20	32.2	1.560	4.852	20.05	30	3	clay
25.26	29.2	1.472	5.046	22.11	29	3	clay
25.33	26.4	1.274	4.818	22.93	27	3	clay
25.39	24.9	1.156	4.633	24.63	27	3	clay
25.46	25.5	1.142	4.478	28.83	26	3	clay
25.52	27.5	1.142	4.150	32.99	25	3	clay
25.59	28.1	1.247	4.432	32.84	24	3	clay
25.66	25.6	1.378	5.373	32.50	24	3	clay
25.72	22.8	1.245	5.464	32.31	25	3	clay
25.79	22.0	1.310	5.964	34.15	25	3	clay
25.85	24.9	1.416	5.674	39.13	26	3	clay
25.92	31.3	1.382	4.418	47.28	19	4	silty clay to clay
25.98	31.2	1.172	3.753	45.61	16	5	clayey silt to silty clay
26.05	31.9	1.051	3.289	44.08	17	5	clayey silt to silty clay
26.12	39.1	1.045	2.669	46.37	18	5	clayey silt to silty clay
26.18	47.9	1.177	2.454	46.20	18	5	clayey silt to silty clay
26.25	43.0	1.195	2.778	35.28	18	5	clayey silt to silty clay
26.31	35.8	1.323	3.698	34.02	17	5	clayey silt to silty clay
26.38	31.0	1.402	4.527	34.60	22	4	silty clay to clay
26.44	28.4	1.463	5.152	36.20	29	3	clay
26.51	25.3	1.571	6.202	41.63	27	3	clay
26.57	24.4	1.683	6.888	58.94	27	3	clay
26.64	26.5	1.764	6.645	79.28	28	3	clay
26.71	29.5	1.837	6.231	87.49	30	3	clay
26.77	33.9	1.904	5.615	94.76	33	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	38.4	1.941	5.059	89.11	35	3	clay
26.90	42.0	1.906	4.533	73.32	25	4	silty clay to clay
26.97	44.2	1.833	4.143	67.62	26	4	silty clay to clay
27.03	43.6	1.789	4.101	64.69	26	4	silty clay to clay
27.10	41.7	1.854	4.445	62.71	25	4	silty clay to clay
27.17	38.0	1.843	4.853	62.97	25	4	silty clay to clay
27.23	35.6	1.682	4.728	65.35	24	4	silty clay to clay
27.30	34.0	1.613	4.748	71.45	24	4	silty clay to clay
27.36	35.9	1.677	4.669	81.96	23	4	silty clay to clay
27.43	39.0	1.862	4.774	87.21	23	4	silty clay to clay
27.49	37.7	1.657	4.400	68.40	19	5	clayey silt to silty clay
27.56	34.8	1.491	4.279	66.35	21	5	clayey silt to silty clay
27.62	38.0	1.286	3.385	77.28	19	6	sandy silt to clayey silt
27.69	51.9	1.196	2.306	89.20	21	6	sandy silt to clayey silt
27.76	67.0	1.253	1.868	82.00	22	6	sandy silt to clayey silt
27.82	74.1	1.205	1.626	27.10	24	6	sandy silt to clayey silt
27.89	75.5	1.335	1.767	14.17	25	6	sandy silt to clayey silt
27.95	69.4	1.570	2.260	8.69	25	6	sandy silt to clayey silt
28.02	62.1	1.773	2.856	6.91	25	6	sandy silt to clayey silt
28.08	55.8	1.911	3.424	9.23	23	6	sandy silt to clayey silt
28.15	58.8	1.764	3.002	12.16	21	6	sandy silt to clayey silt
28.22	53.1	1.571	2.959	10.55	23	5	clayey silt to silty clay
28.28	44.6	1.366	3.061	8.79	21	5	clayey silt to silty clay
28.35	35.7	1.258	3.525	8.45	19	5	clayey silt to silty clay
28.41	30.1	1.521	5.056	8.84	16	5	clayey silt to silty clay
28.48	25.9	1.322	5.110	10.03	20	4	silty clay to clay
28.54	23.2	1.041	4.498	11.83	17	5	clayey silt to silty clay
28.61	24.0	1.026	4.280	13.85	19	5	clayey silt to silty clay
28.67	38.9	1.226	3.154	16.15	17	6	sandy silt to clayey silt
28.74	63.9	1.371	2.147	18.10	19	6	sandy silt to clayey silt
28.81	66.2	1.528	2.310	15.32	22	6	sandy silt to clayey silt
28.87	64.2	1.598	2.490	14.68	24	6	sandy silt to clayey silt
28.94	65.3	1.461	2.237	14.26	22	7	silty sand to sandy silt
29.00	71.6	1.314	1.835	13.02	22	7	silty sand to sandy silt
29.07	72.5	1.301	1.795	9.24	21	7	silty sand to sandy silt
29.13	68.5	1.329	1.940	8.89	21	7	silty sand to sandy silt
29.20	64.6	1.099	1.701	8.76	19	7	silty sand to sandy silt
29.27	59.8	0.972	1.624	8.73	21	6	sandy silt to clayey silt
29.33	49.5	1.087	2.196	8.73	19	6	sandy silt to clayey silt
29.40	41.2	1.153	2.801	8.78	18	6	sandy silt to clayey silt
29.46	33.7	1.065	3.158	8.88	17	6	sandy silt to clayey silt
29.53	37.4	0.961	2.571	9.98	16	6	sandy silt to clayey silt
29.59	45.6	1.122	2.462	12.59	15	6	sandy silt to clayey silt
29.66	45.8	1.186	2.591	13.81	15	6	sandy silt to clayey silt
29.72	41.0	1.185	2.890	13.25	14	6	sandy silt to clayey silt
29.79	35.3	0.930	2.633	12.92	18	5	clayey silt to silty clay
29.86	29.7	1.069	3.602	12.74	16	5	clayey silt to silty clay
29.92	30.3	1.172	3.872	13.52	15	5	clayey silt to silty clay
29.99	29.6	0.981	3.316	14.12	13	6	sandy silt to clayey silt
30.05	27.8	0.821	2.952	14.46	15	6	sandy silt to clayey silt
30.12	32.1	0.811	2.529	15.15	17	6	sandy silt to clayey silt
30.18	59.3	0.840	1.416	17.32	19	6	sandy silt to clayey silt
30.25	72.4	1.031	1.425	16.67	20	6	sandy silt to clayey silt
30.31	65.3	1.251	1.917	12.23	20	6	sandy silt to clayey silt
30.38	54.9	1.267	2.306	10.64	20	6	sandy silt to clayey silt
30.45	45.7	1.348	2.950	10.40	19	6	sandy silt to clayey silt
30.51	37.3	1.452	3.891	10.16	16	6	sandy silt to clayey silt
30.58	32.2	1.438	4.465	10.00	17	5	clayey silt to silty clay
30.64	30.9	1.240	4.010	9.93	15	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	28.2	0.819	2.901	10.53	13	5	clayey silt to silty clay
30.77	26.2	0.517	1.971	10.29	12	5	clayey silt to silty clay
30.84	22.3	0.321	1.443	10.19	11	5	clayey silt to silty clay
30.91	17.6	0.260	1.476	10.22	9	5	clayey silt to silty clay
30.97	15.0	0.220	1.467	10.87	8	5	clayey silt to silty clay
31.04	13.6	0.366	2.688	11.81	8	5	clayey silt to silty clay
31.10	13.6	0.520	3.833	12.75	7	5	clayey silt to silty clay
31.17	14.9	0.643	4.300	13.75	8	5	clayey silt to silty clay
31.23	16.5	0.591	3.589	14.63	8	5	clayey silt to silty clay
31.30	18.5	0.642	3.474	15.34	8	5	clayey silt to silty clay
31.36	18.6	0.427	2.301	17.30	8	5	clayey silt to silty clay
31.43	20.7	0.403	1.949	16.05	8	5	clayey silt to silty clay
31.50	16.2	0.460	2.844	15.33	8	5	clayey silt to silty clay
31.56	14.4	0.358	2.484	16.44	8	5	clayey silt to silty clay
31.63	13.9	0.371	2.661	17.80	8	5	clayey silt to silty clay
31.69	15.8	0.467	2.955	18.62	9	5	clayey silt to silty clay
31.76	19.6	0.607	3.097	19.66	9	5	clayey silt to silty clay
31.82	23.0	0.713	3.103	20.09	10	5	clayey silt to silty clay
31.89	21.4	0.756	3.539	18.72	12	5	clayey silt to silty clay
31.96	24.9	0.635	2.551	20.02	11	6	sandy silt to clayey silt
32.02	32.1	0.596	1.857	21.68	11	6	sandy silt to clayey silt
32.09	38.1	0.705	1.852	21.18	12	6	sandy silt to clayey silt
32.15	35.7	0.875	2.448	13.41	15	5	clayey silt to silty clay
32.22	31.3	1.034	3.300	11.16	16	5	clayey silt to silty clay
32.28	27.1	1.174	4.329	11.48	18	5	clayey silt to silty clay
32.35	28.2	1.395	4.937	12.70	20	5	clayey silt to silty clay
32.41	41.9	1.794	4.277	14.72	22	5	clayey silt to silty clay
32.48	58.5	2.147	3.667	15.23	25	5	clayey silt to silty clay
32.55	68.2	2.505	3.676	13.78	28	5	clayey silt to silty clay
32.61	72.5	2.773	3.824	11.24	31	5	clayey silt to silty clay
32.68	70.8	2.775	3.920	9.88	33	5	clayey silt to silty clay
32.74	68.8	2.864	4.166	9.73	35	5	clayey silt to silty clay
32.81	71.5	2.953	4.133	10.08	36	5	clayey silt to silty clay
32.87	77.1	2.931	3.802	10.26	37	5	clayey silt to silty clay
32.94	83.8	2.814	3.358	10.28	30	6	sandy silt to clayey silt
33.01	84.1	2.611	3.103	9.89	31	6	sandy silt to clayey silt
33.07	82.5	2.330	2.823	9.66	32	6	sandy silt to clayey silt
33.14	82.8	2.323	2.807	9.37	32	6	sandy silt to clayey silt
33.20	85.2	2.196	2.578	9.15	31	6	sandy silt to clayey silt
33.27	83.3	1.874	2.250	8.92	30	6	sandy silt to clayey silt
33.33	76.1	1.461	1.918	8.72	30	6	sandy silt to clayey silt
33.40	71.2	1.451	2.038	8.49	31	6	sandy silt to clayey silt
33.46	75.3	1.881	2.496	8.30	32	6	sandy silt to clayey silt
33.53	78.9	2.440	3.093	8.18	33	6	sandy silt to clayey silt
33.60	90.0	2.755	3.062	8.16	36	6	sandy silt to clayey silt
33.66	106.8	3.156	2.956	8.23	39	6	sandy silt to clayey silt
33.73	104.2	3.399	3.262	8.29	41	6	sandy silt to clayey silt
33.79	137.4	3.601	2.621	7.76	43	6	sandy silt to clayey silt
33.86	114.6	3.287	2.869	8.07	38	7	silty sand to sandy silt
33.92	117.3	3.325	2.835	8.08	38	7	silty sand to sandy silt
33.99	122.9	2.695	2.192	8.00	39	7	silty sand to sandy silt
34.06	124.3	2.613	2.103	7.92	38	7	silty sand to sandy silt
34.12	122.4	2.595	2.120	7.78	39	7	silty sand to sandy silt
34.19	120.8	2.570	2.127	7.70	30	8	sand to silty sand
34.25	120.9	1.493	1.236	7.58	30	8	sand to silty sand
34.32	128.2	1.162	0.906	7.54	31	8	sand to silty sand
34.38	134.5	1.148	0.854	7.52	31	8	sand to silty sand
34.45	137.2	1.284	0.936	7.47	32	8	sand to silty sand
34.51	139.7	1.361	0.974	7.44	33	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	134.8	1.361	1.010	8.70	33	8	sand to silty sand
34.65	137.7	1.265	0.919	8.65	33	8	sand to silty sand
34.71	139.1	1.277	0.918	8.61	33	8	sand to silty sand
34.78	138.6	1.439	1.038	8.49	33	8	sand to silty sand
34.84	138.1	1.535	1.112	8.30	33	8	sand to silty sand
34.91	137.1	1.534	1.118	8.18	34	8	sand to silty sand
34.97	138.8	1.463	1.054	8.06	34	8	sand to silty sand
35.04	143.5	1.238	0.863	8.01	28	9	sand
35.10	151.1	1.031	0.682	8.04	28	9	sand
35.17	156.3	0.854	0.546	8.02	28	9	sand
35.24	156.3	0.791	0.506	7.96	28	9	sand
35.30	151.2	0.840	0.555	7.89	26	9	sand
35.37	138.2	0.988	0.715	7.74	30	8	sand to silty sand
35.43	117.4	1.068	0.909	7.62	27	8	sand to silty sand
35.50	94.0	1.415	1.505	7.46	24	8	sand to silty sand
35.56	74.2	1.571	2.117	7.41	28	7	silty sand to sandy silt
35.63	61.5	1.559	2.536	7.50	0	0	<out of range>
35.70	59.7	1.674	2.804	7.74	0	0	<out of range>
35.76	70.3	2.117	3.010	8.24	38	9	sand
35.83	152.1	-32768	-32768	9.42	0	0	<out of range>
35.89	213.5	-32768	-32768	10.07	0	0	<out of range>
35.96	274.9	-32768	-32768	10.50	0	0	<out of range>
36.02	283.0	-32768	-32768	10.66	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee)
Project No: 60095742

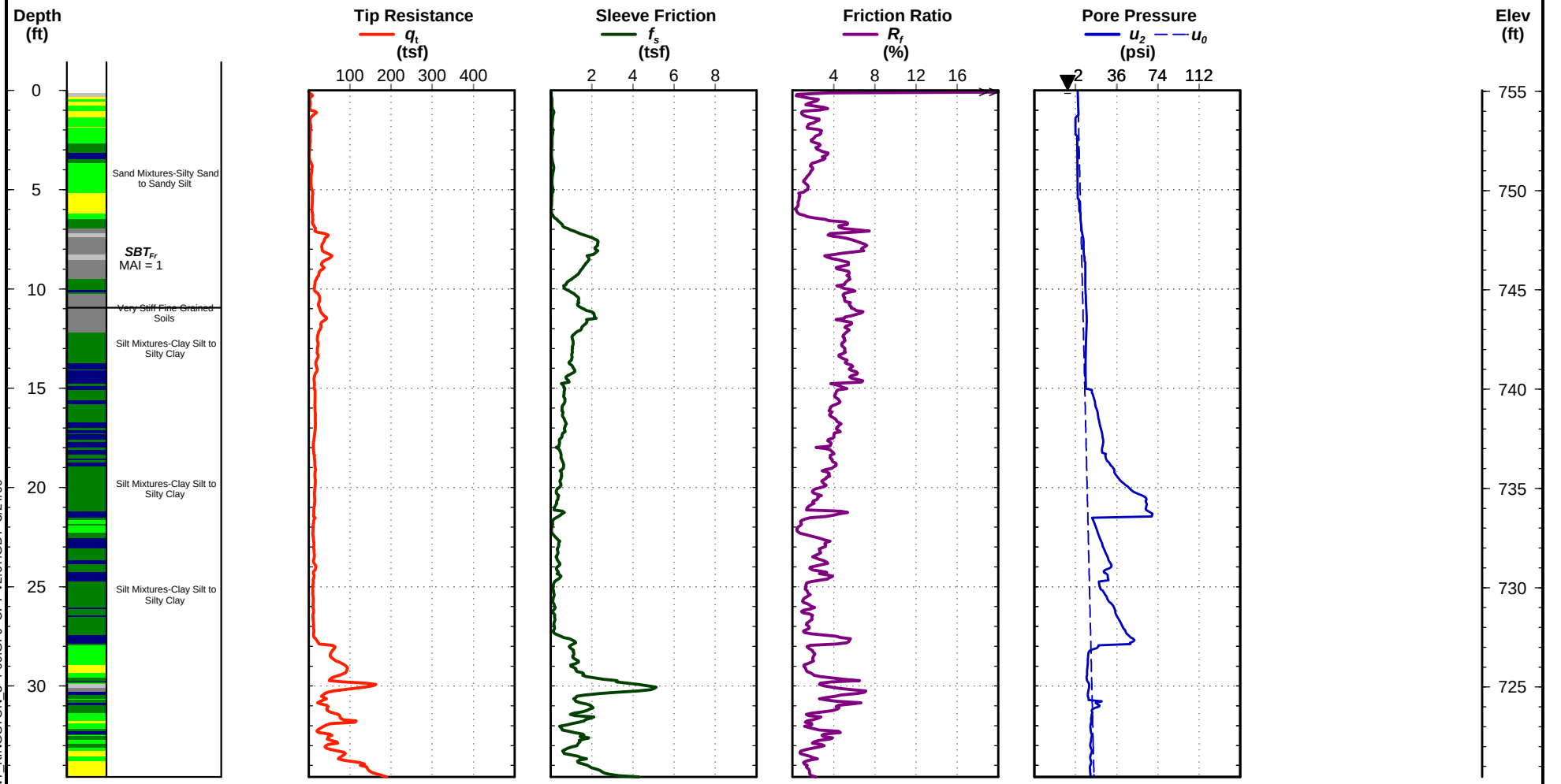
Cone Penetration Test

09-206-C1

Date: Jan. 24, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557766.2
Easting: 2441121.08
Elevation: 755.05 NGVD

Total Depth: 34.6 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



09-206-C1

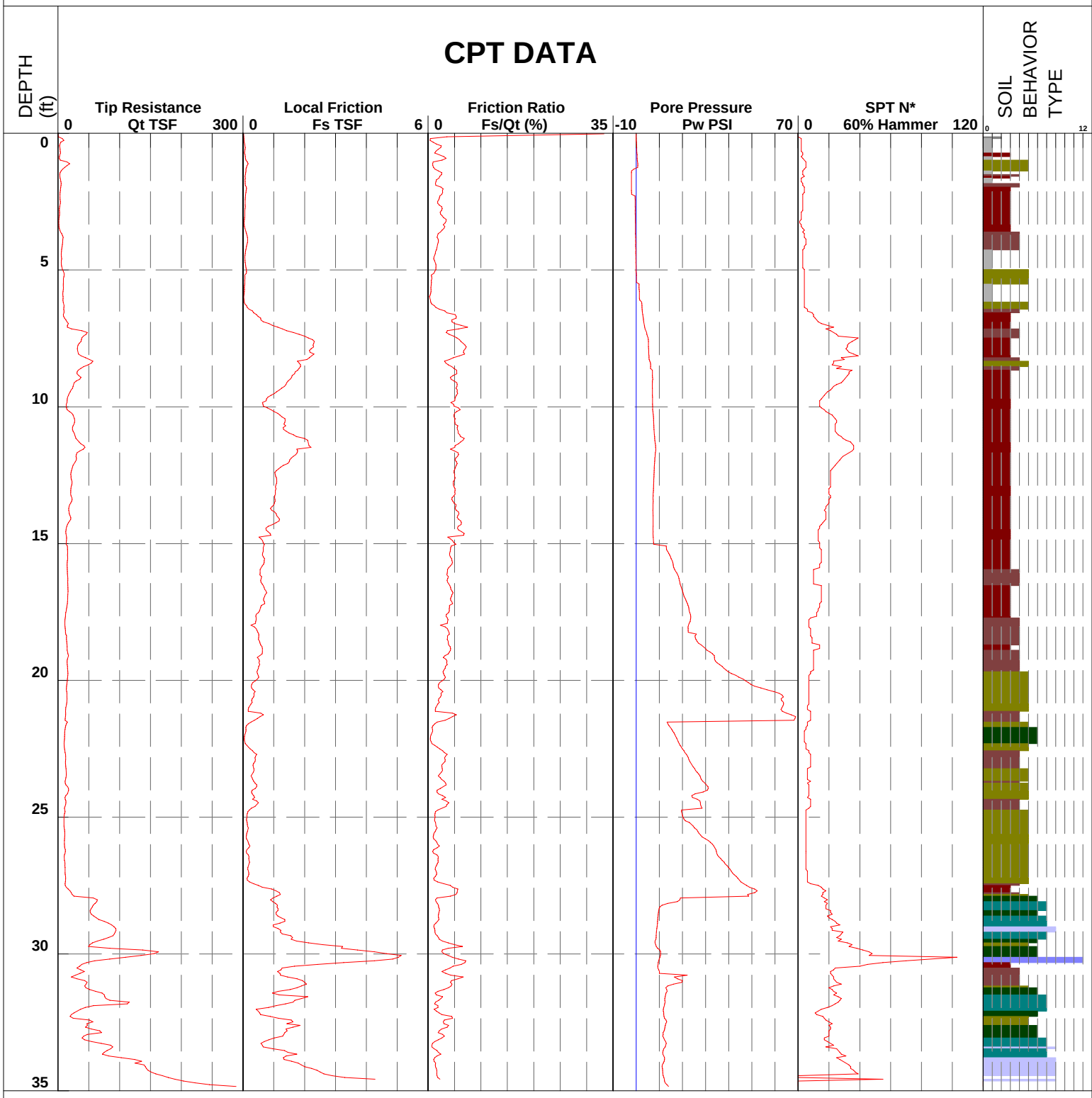
Electronic Filename: 09-206-C1.cpt

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

AECOM

09-206-C1	60095742	1/24/2009 2:27:43 PM
DSG0870	TVA-Kingston	CAP CME-750

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-206-C1 1/24/2009 2:27:43 PM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:English

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.1	0.020	33.289	0.00	0	0	<out of range>
0.13	0.7	0.026	3.569	-0.02	0	2	organic material
0.20	6.9	0.030	0.433	-0.01	2	1	sensitive fine grained
0.26	9.5	0.035	0.371	0.00	2	1	sensitive fine grained
0.33	4.6	0.044	0.960	0.11	2	1	sensitive fine grained
0.39	3.4	0.054	1.596	0.15	2	1	sensitive fine grained
0.46	2.6	0.065	2.511	0.19	2	1	sensitive fine grained
0.52	3.0	0.072	2.401	0.23	2	1	sensitive fine grained
0.59	3.5	0.067	1.916	0.22	2	1	sensitive fine grained
0.66	3.6	0.054	1.503	0.24	2	1	sensitive fine grained
0.72	3.9	0.050	1.276	0.30	3	3	clay
0.79	3.1	0.066	2.124	0.37	3	3	clay
0.85	2.5	0.075	2.991	0.41	2	1	sensitive fine grained
0.92	2.2	0.075	3.424	0.42	3	1	sensitive fine grained
0.98	3.7	0.099	2.653	0.46	4	5	clayey silt to silty clay
1.05	14.7	0.142	0.966	0.60	5	5	clayey silt to silty clay
1.12	19.1	0.166	0.870	0.70	5	5	clayey silt to silty clay
1.18	14.7	0.131	0.891	0.69	5	5	clayey silt to silty clay
1.25	11.1	0.115	1.036	0.62	5	5	clayey silt to silty clay
1.31	7.7	0.099	1.284	-0.97	4	5	clayey silt to silty clay
1.38	5.1	0.099	1.941	-1.99	3	1	sensitive fine grained
1.44	3.5	0.090	2.595	-2.07	3	1	sensitive fine grained
1.51	3.0	0.076	2.564	-2.07	3	4	silty clay to clay
1.57	3.1	0.068	2.215	-2.09	4	3	clay
1.64	3.6	0.073	2.049	-2.07	2	1	sensitive fine grained
1.71	4.3	0.068	1.565	-2.05	2	1	sensitive fine grained
1.77	4.8	0.072	1.500	-2.04	2	1	sensitive fine grained
1.84	5.1	0.072	1.399	-2.03	3	4	silty clay to clay
1.90	5.0	0.073	1.469	-2.02	3	4	silty clay to clay
1.97	4.6	0.112	2.455	-2.04	4	3	clay
2.03	3.9	0.112	2.844	-2.05	4	3	clay
2.10	3.8	0.102	2.708	-2.02	4	3	clay
2.17	3.6	0.099	2.750	-2.00	4	3	clay
2.23	3.3	0.087	2.606	-2.00	3	3	clay
2.30	3.4	0.076	2.238	-0.50	3	3	clay
2.36	3.4	0.073	2.140	-0.48	3	3	clay
2.43	3.5	0.071	2.043	-0.46	3	3	clay
2.49	3.8	0.070	1.831	-0.45	3	3	clay
2.56	3.8	0.069	1.831	-0.44	3	3	clay
2.62	3.4	0.071	2.120	-0.44	3	3	clay
2.69	2.8	0.073	2.598	-0.43	3	3	clay
2.76	2.5	0.068	2.684	-0.42	3	3	clay
2.82	2.4	0.061	2.564	-0.43	3	3	clay
2.89	2.6	0.059	2.284	-0.42	2	3	clay
2.95	2.5	0.060	2.359	-0.43	2	3	clay
3.02	2.3	0.060	2.655	-0.40	2	3	clay
3.08	1.8	0.053	2.929	-0.40	2	3	clay
3.15	1.4	0.049	3.440	-0.39	2	3	clay
3.22	1.2	0.042	3.415	-0.39	1	3	clay
3.28	1.2	0.039	3.243	-0.37	1	3	clay
3.35	1.3	0.039	2.881	-0.36	2	3	clay
3.41	1.5	0.049	3.166	-0.35	2	3	clay
3.48	2.1	0.064	3.015	-0.35	3	3	clay
3.54	3.1	0.083	2.667	-0.35	4	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	4.2	0.100	2.365	-0.33	3	4	silty clay to clay
3.67	6.0	0.114	1.908	-0.31	4	4	silty clay to clay
3.74	7.4	0.132	1.779	-0.28	4	4	silty clay to clay
3.81	8.4	0.145	1.723	-0.24	4	4	silty clay to clay
3.87	8.0	0.153	1.902	-0.24	5	4	silty clay to clay
3.94	7.7	0.152	1.974	-0.25	5	4	silty clay to clay
4.00	7.6	0.145	1.918	-0.21	5	4	silty clay to clay
4.07	7.3	0.130	1.790	-0.22	5	4	silty clay to clay
4.13	6.8	0.117	1.732	-0.22	4	4	silty clay to clay
4.20	6.2	0.103	1.665	-0.19	4	4	silty clay to clay
4.27	5.9	0.092	1.571	-0.18	3	1	sensitive fine grained
4.33	5.6	0.079	1.406	-0.19	3	1	sensitive fine grained
4.40	5.4	0.073	1.358	-0.19	3	1	sensitive fine grained
4.46	5.4	0.069	1.263	-0.17	3	1	sensitive fine grained
4.53	5.7	0.063	1.101	-0.16	3	1	sensitive fine grained
4.59	5.9	0.063	1.066	-0.14	3	1	sensitive fine grained
4.66	5.5	0.067	1.222	-0.12	3	1	sensitive fine grained
4.72	5.4	0.072	1.344	-0.14	3	1	sensitive fine grained
4.79	5.5	0.082	1.491	-0.10	3	1	sensitive fine grained
4.86	5.9	0.088	1.507	-0.05	3	1	sensitive fine grained
4.92	6.6	0.098	1.488	-0.05	3	1	sensitive fine grained
4.99	7.4	0.110	1.484	-0.02	4	5	clayey silt to silty clay
5.05	8.9	0.113	1.263	-0.03	4	5	clayey silt to silty clay
5.12	9.9	0.110	1.107	0.03	4	5	clayey silt to silty clay
5.18	10.1	0.061	0.606	0.08	4	5	clayey silt to silty clay
5.25	9.4	0.064	0.678	0.10	4	5	clayey silt to silty clay
5.31	8.7	0.063	0.725	0.08	4	5	clayey silt to silty clay
5.38	8.8	0.055	0.624	0.09	4	5	clayey silt to silty clay
5.45	8.8	0.057	0.652	0.10	4	5	clayey silt to silty clay
5.51	8.6	0.054	0.620	1.27	4	1	sensitive fine grained
5.58	8.6	0.050	0.579	1.24	4	1	sensitive fine grained
5.64	8.7	0.047	0.536	1.21	4	1	sensitive fine grained
5.71	8.6	0.048	0.560	1.26	4	1	sensitive fine grained
5.77	8.3	0.046	0.560	1.34	4	1	sensitive fine grained
5.84	7.9	0.040	0.497	1.38	4	1	sensitive fine grained
5.91	7.9	0.032	0.408	1.35	4	1	sensitive fine grained
5.97	8.2	0.022	0.272	1.37	4	1	sensitive fine grained
6.04	8.3	0.029	0.356	1.39	4	1	sensitive fine grained
6.10	8.1	0.036	0.444	1.55	4	1	sensitive fine grained
6.17	8.4	0.042	0.498	2.34	4	5	clayey silt to silty clay
6.23	9.2	0.061	0.666	2.46	4	5	clayey silt to silty clay
6.30	9.9	0.116	1.171	2.49	4	5	clayey silt to silty clay
6.36	9.5	0.137	1.440	2.50	4	5	clayey silt to silty clay
6.43	9.3	0.197	2.126	2.52	6	4	silty clay to clay
6.50	9.6	0.309	3.199	2.56	6	4	silty clay to clay
6.56	9.8	0.347	3.538	2.68	9	3	clay
6.63	8.6	0.439	5.130	2.84	10	3	clay
6.69	9.2	0.490	5.351	2.96	10	3	clay
6.76	10.8	0.572	5.307	3.06	11	3	clay
6.82	12.9	0.582	4.500	3.15	12	3	clay
6.89	14.5	0.656	4.524	3.24	13	3	clay
6.96	16.8	0.843	5.020	3.41	15	3	clay
7.02	15.2	0.953	6.269	3.51	19	3	clay
7.09	15.1	1.130	7.469	3.69	23	3	clay
7.15	22.1	1.276	5.785	3.86	18	4	silty clay to clay
7.22	38.8	1.415	3.649	4.15	21	4	silty clay to clay
7.28	47.5	1.635	3.442	4.49	23	4	silty clay to clay
7.35	45.7	1.818	3.980	4.61	25	4	silty clay to clay
7.41	41.2	1.997	4.848	4.88	26	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	38.7	2.116	5.471	5.16	39	3	clay
7.55	38.0	2.254	5.935	5.24	37	3	clay
7.61	37.2	2.314	6.223	5.31	35	3	clay
7.68	34.6	2.293	6.635	5.33	33	3	clay
7.74	32.5	2.272	6.993	5.33	32	3	clay
7.81	31.7	2.290	7.230	5.30	32	3	clay
7.87	31.4	2.212	7.037	5.34	31	3	clay
7.94	31.8	2.153	6.769	5.38	32	3	clay
8.01	32.5	2.173	6.678	5.41	33	3	clay
8.07	33.2	2.301	6.924	5.44	36	3	clay
8.14	37.5	2.222	5.929	5.51	39	3	clay
8.20	44.8	2.155	4.811	5.52	28	4	silty clay to clay
8.27	51.2	2.075	4.049	5.62	30	4	silty clay to clay
8.33	56.7	1.766	3.115	5.90	23	5	clayey silt to silty clay
8.40	54.2	1.821	3.358	6.17	23	5	clayey silt to silty clay
8.46	49.0	1.866	3.811	6.21	22	5	clayey silt to silty clay
8.53	41.7	1.866	4.471	6.21	28	4	silty clay to clay
8.60	36.9	1.816	4.920	6.19	25	4	silty clay to clay
8.66	32.7	1.772	5.423	7.01	35	3	clay
8.73	31.2	1.690	5.425	6.99	33	3	clay
8.79	30.8	1.672	5.432	6.98	33	3	clay
8.86	33.8	1.593	4.715	6.99	32	3	clay
8.92	37.4	1.577	4.216	7.05	31	3	clay
8.99	35.3	1.530	4.336	7.15	30	3	clay
9.06	29.6	1.461	4.936	7.04	29	3	clay
9.12	26.2	1.422	5.426	6.99	28	3	clay
9.19	25.3	1.392	5.504	6.95	25	3	clay
9.25	24.6	1.346	5.472	6.95	23	3	clay
9.32	23.7	1.254	5.282	6.97	22	3	clay
9.38	21.3	1.179	5.530	7.03	21	3	clay
9.45	19.8	1.087	5.496	7.05	19	3	clay
9.51	18.2	1.019	5.589	7.04	18	3	clay
9.58	17.0	0.909	5.360	7.04	17	3	clay
9.65	15.6	0.809	5.176	7.06	16	3	clay
9.71	15.0	0.763	5.085	7.05	15	3	clay
9.78	14.9	0.752	5.062	7.06	14	3	clay
9.84	14.7	0.631	4.300	7.06	14	3	clay
9.91	13.5	0.649	4.820	7.08	14	3	clay
9.97	13.4	0.660	4.925	7.10	14	3	clay
10.04	13.8	0.791	5.736	7.11	15	3	clay
10.10	14.9	0.908	6.082	7.13	17	3	clay
10.17	18.6	1.004	5.411	7.20	18	3	clay
10.24	22.5	1.128	5.009	7.30	20	3	clay
10.30	24.3	1.195	4.916	7.38	22	3	clay
10.37	25.6	1.262	4.921	7.43	23	3	clay
10.43	26.6	1.359	5.103	7.47	24	3	clay
10.50	27.2	1.368	5.037	7.50	25	3	clay
10.56	26.7	1.356	5.070	7.58	25	3	clay
10.63	26.0	1.329	5.110	7.61	24	3	clay
10.70	24.6	1.380	5.622	7.63	24	3	clay
10.76	23.7	1.302	5.504	7.65	24	3	clay
10.83	23.7	1.316	5.565	7.68	24	3	clay
10.89	24.5	1.398	5.697	7.76	24	3	clay
10.96	26.4	1.499	5.686	7.80	25	3	clay
11.02	27.2	1.637	6.012	7.86	26	3	clay
11.09	28.1	1.730	6.156	8.00	28	3	clay
11.15	29.0	1.989	6.852	7.98	29	3	clay
11.22	31.7	2.096	6.607	8.05	31	3	clay
11.29	34.3	2.109	6.152	8.14	34	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	37.1	2.126	5.733	8.29	35	3	clay
11.42	42.0	2.141	5.094	8.37	36	3	clay
11.48	43.7	2.206	5.052	8.39	36	3	clay
11.55	41.3	1.747	4.234	8.47	36	3	clay
11.61	35.6	1.774	4.980	8.43	35	3	clay
11.68	30.9	1.756	5.687	8.31	33	3	clay
11.75	29.7	1.713	5.760	8.20	31	3	clay
11.81	29.2	1.630	5.576	8.18	29	3	clay
11.88	30.0	1.567	5.216	8.06	28	3	clay
11.94	29.8	1.516	5.088	8.04	27	3	clay
12.01	28.0	1.502	5.358	7.99	26	3	clay
12.07	26.3	1.448	5.511	7.91	25	3	clay
12.14	24.5	1.307	5.329	7.85	24	3	clay
12.20	23.6	1.222	5.179	7.82	23	3	clay
12.27	22.8	1.154	5.068	7.83	22	3	clay
12.34	21.9	1.081	4.937	7.77	21	3	clay
12.40	21.1	1.032	4.887	7.76	21	3	clay
12.47	20.7	1.044	5.047	7.68	21	3	clay
12.53	21.1	1.060	5.013	7.68	21	3	clay
12.60	21.2	1.084	5.111	7.62	21	3	clay
12.66	21.8	1.095	5.012	7.60	21	3	clay
12.73	22.8	1.098	4.815	7.60	21	3	clay
12.80	22.8	1.090	4.770	7.57	21	3	clay
12.86	22.2	1.065	4.790	7.54	21	3	clay
12.93	21.3	1.052	4.938	7.49	21	3	clay
12.99	21.0	1.069	5.094	7.44	20	3	clay
13.06	20.7	1.052	5.089	7.43	20	3	clay
13.12	20.7	1.047	5.053	7.40	20	3	clay
13.19	20.5	1.053	5.137	7.33	20	3	clay
13.25	21.1	1.029	4.879	7.34	21	3	clay
13.32	22.7	1.027	4.532	7.29	21	3	clay
13.39	23.0	1.039	4.512	7.31	20	3	clay
13.45	22.2	1.041	4.686	7.34	20	3	clay
13.52	20.8	1.019	4.909	7.31	20	3	clay
13.58	18.9	1.004	5.310	7.27	19	3	clay
13.65	18.0	0.941	5.235	7.22	18	3	clay
13.71	17.5	0.893	5.111	7.23	18	3	clay
13.78	17.5	0.930	5.328	7.21	17	3	clay
13.85	17.9	1.026	5.739	7.23	18	3	clay
13.91	18.4	1.077	5.846	7.23	18	3	clay
13.98	19.4	1.094	5.629	7.31	18	3	clay
14.04	20.7	1.139	5.507	7.33	18	3	clay
14.11	20.6	1.185	5.741	7.33	18	3	clay
14.17	18.9	1.171	6.201	7.33	17	3	clay
14.24	16.9	1.069	6.312	7.33	16	3	clay
14.30	15.4	0.963	6.255	7.33	15	3	clay
14.37	14.3	0.819	5.709	7.31	14	3	clay
14.44	13.4	0.746	5.548	7.27	14	3	clay
14.50	13.0	0.751	5.757	7.26	13	3	clay
14.57	12.8	0.813	6.361	7.30	13	3	clay
14.63	12.9	0.879	6.836	7.29	13	3	clay
14.70	13.4	0.901	6.701	7.33	13	3	clay
14.76	14.0	0.519	3.710	7.36	13	3	clay
14.83	13.9	0.589	4.235	7.39	13	3	clay
14.90	13.7	0.636	4.639	7.42	13	3	clay
14.96	13.4	0.652	4.870	7.48	14	3	clay
15.03	13.1	0.692	5.276	7.51	14	3	clay
15.09	15.4	0.675	4.390	13.00	14	3	clay
15.16	15.5	0.656	4.246	13.04	14	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	15.5	0.658	4.241	13.11	15	3	clay
15.29	15.6	0.654	4.183	13.64	15	3	clay
15.35	15.6	0.637	4.088	14.04	15	3	clay
15.42	15.5	0.632	4.079	14.47	15	3	clay
15.49	15.7	0.661	4.222	14.82	15	3	clay
15.55	15.7	0.699	4.449	15.11	15	3	clay
15.62	15.3	0.689	4.520	15.54	15	3	clay
15.68	15.0	0.690	4.616	15.77	15	3	clay
15.75	14.8	0.671	4.526	15.95	14	3	clay
15.81	14.8	0.624	4.215	16.01	14	3	clay
15.88	15.1	0.587	3.899	16.28	14	3	clay
15.94	15.1	0.556	3.691	16.62	10	4	silty clay to clay
16.01	15.2	0.556	3.666	17.03	10	4	silty clay to clay
16.08	15.3	0.554	3.621	17.60	10	4	silty clay to clay
16.14	15.5	0.549	3.553	17.95	10	4	silty clay to clay
16.21	15.7	0.603	3.835	18.29	10	4	silty clay to clay
16.27	16.0	0.594	3.717	18.47	10	4	silty clay to clay
16.34	16.0	0.574	3.594	18.64	10	4	silty clay to clay
16.40	15.8	0.581	3.689	18.86	10	4	silty clay to clay
16.47	15.9	0.621	3.912	18.96	10	4	silty clay to clay
16.54	16.0	0.657	4.116	19.20	15	3	clay
16.60	16.1	0.685	4.257	19.47	15	3	clay
16.67	16.3	0.702	4.309	19.72	15	3	clay
16.73	16.4	0.746	4.543	20.04	15	3	clay
16.80	16.2	0.768	4.728	20.24	15	3	clay
16.86	16.0	0.721	4.519	20.49	15	3	clay
16.93	15.8	0.700	4.431	20.68	15	3	clay
16.99	15.8	0.674	4.274	21.10	15	3	clay
17.06	15.6	0.665	4.274	21.43	15	3	clay
17.13	15.4	0.694	4.506	21.78	15	3	clay
17.19	15.3	0.708	4.639	22.13	14	3	clay
17.26	14.7	0.598	4.055	22.37	14	3	clay
17.32	14.2	0.572	4.032	22.65	14	3	clay
17.39	13.8	0.553	4.006	22.79	13	3	clay
17.45	13.4	0.540	4.026	22.88	13	3	clay
17.52	12.8	0.498	3.897	23.11	12	3	clay
17.59	12.3	0.426	3.460	23.47	12	3	clay
17.65	12.2	0.416	3.418	23.57	12	3	clay
17.72	11.8	0.429	3.644	23.55	8	4	silty clay to clay
17.78	11.4	0.429	3.768	23.44	7	4	silty clay to clay
17.85	11.2	0.413	3.676	23.33	7	4	silty clay to clay
17.91	11.1	0.406	3.649	22.86	7	4	silty clay to clay
17.98	11.1	0.257	2.304	22.61	7	4	silty clay to clay
18.04	11.5	0.375	3.262	22.40	7	4	silty clay to clay
18.11	11.8	0.430	3.657	22.41	8	4	silty clay to clay
18.18	12.0	0.456	3.787	22.46	8	4	silty clay to clay
18.24	12.2	0.483	3.966	22.51	8	4	silty clay to clay
18.31	12.7	0.511	4.030	26.01	8	4	silty clay to clay
18.37	14.0	0.512	3.658	25.44	8	4	silty clay to clay
18.44	13.8	0.508	3.677	25.53	9	4	silty clay to clay
18.50	13.8	0.501	3.635	25.79	9	4	silty clay to clay
18.57	14.0	0.535	3.810	26.30	9	4	silty clay to clay
18.64	14.4	0.551	3.830	26.88	9	4	silty clay to clay
18.70	14.8	0.575	3.901	28.09	14	3	clay
18.77	14.8	0.619	4.182	29.00	14	3	clay
18.83	14.8	0.632	4.265	29.92	14	3	clay
18.90	14.8	0.629	4.243	30.51	10	4	silty clay to clay
18.96	15.6	0.627	4.016	31.96	10	4	silty clay to clay
19.03	16.3	0.621	3.821	32.94	10	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	17.0	0.546	3.219	33.79	10	4	silty clay to clay
19.16	16.0	0.461	2.878	33.84	10	4	silty clay to clay
19.23	15.2	0.515	3.374	33.84	10	4	silty clay to clay
19.29	14.9	0.532	3.567	34.21	10	4	silty clay to clay
19.36	14.8	0.518	3.499	34.90	10	4	silty clay to clay
19.42	15.1	0.545	3.621	36.06	10	4	silty clay to clay
19.49	15.5	0.509	3.274	37.13	10	4	silty clay to clay
19.55	15.5	0.503	3.242	37.92	10	4	silty clay to clay
19.62	15.8	0.474	3.009	38.86	10	4	silty clay to clay
19.69	16.0	0.452	2.826	39.74	8	5	clayey silt to silty clay
19.75	16.0	0.468	2.924	41.16	8	5	clayey silt to silty clay
19.82	15.9	0.492	3.092	43.14	7	5	clayey silt to silty clay
19.88	15.6	0.510	3.273	44.35	7	5	clayey silt to silty clay
19.95	15.2	0.472	3.111	46.17	7	5	clayey silt to silty clay
20.01	15.0	0.398	2.649	47.31	7	5	clayey silt to silty clay
20.08	14.6	0.321	2.190	48.43	7	5	clayey silt to silty clay
20.14	14.4	0.285	1.987	49.52	7	5	clayey silt to silty clay
20.21	14.0	0.270	1.929	51.12	7	5	clayey silt to silty clay
20.28	13.7	0.278	2.023	53.92	7	5	clayey silt to silty clay
20.34	13.6	0.328	2.414	56.48	7	5	clayey silt to silty clay
20.41	14.1	0.396	2.803	59.52	7	5	clayey silt to silty clay
20.47	14.5	0.351	2.426	61.79	7	5	clayey silt to silty clay
20.54	14.5	0.362	2.500	63.06	7	5	clayey silt to silty clay
20.60	14.6	0.345	2.367	63.61	7	5	clayey silt to silty clay
20.67	14.6	0.297	2.031	62.60	7	5	clayey silt to silty clay
20.73	14.5	0.282	1.945	62.87	7	5	clayey silt to silty clay
20.80	14.2	0.299	2.109	63.68	7	5	clayey silt to silty clay
20.87	14.0	0.257	1.841	63.72	7	5	clayey silt to silty clay
20.93	13.4	0.221	1.642	63.44	6	5	clayey silt to silty clay
21.00	12.7	0.184	1.446	62.99	6	5	clayey silt to silty clay
21.06	12.4	0.172	1.381	62.59	6	5	clayey silt to silty clay
21.13	12.3	0.167	1.362	63.17	8	4	silty clay to clay
21.19	12.4	0.573	4.634	64.95	8	4	silty clay to clay
21.26	12.4	0.663	5.368	67.01	8	4	silty clay to clay
21.33	12.1	0.557	4.610	68.88	8	4	silty clay to clay
21.39	11.8	0.469	3.987	68.61	8	4	silty clay to clay
21.46	11.5	0.372	3.242	68.20	8	4	silty clay to clay
21.52	15.2	0.261	1.712	13.33	6	5	clayey silt to silty clay
21.59	13.6	0.170	1.249	13.72	6	5	clayey silt to silty clay
21.65	12.7	0.117	0.927	14.18	6	5	clayey silt to silty clay
21.72	12.0	0.093	0.776	14.74	5	6	sandy silt to clayey silt
21.78	11.5	0.095	0.824	15.36	5	6	sandy silt to clayey silt
21.85	11.1	0.098	0.884	15.72	4	6	sandy silt to clayey silt
21.92	10.8	0.081	0.752	16.32	4	6	sandy silt to clayey silt
21.98	10.8	0.062	0.576	16.69	4	6	sandy silt to clayey silt
22.05	10.8	0.049	0.458	17.07	4	6	sandy silt to clayey silt
22.11	10.6	0.045	0.422	17.49	4	6	sandy silt to clayey silt
22.18	10.3	0.045	0.430	17.86	4	6	sandy silt to clayey silt
22.24	10.2	0.059	0.584	18.19	4	6	sandy silt to clayey silt
22.31	10.0	0.073	0.737	18.58	5	5	clayey silt to silty clay
22.38	10.1	0.130	1.293	19.05	5	5	clayey silt to silty clay
22.44	10.3	0.179	1.738	19.54	5	5	clayey silt to silty clay
22.51	10.6	0.236	2.233	19.97	5	5	clayey silt to silty clay
22.57	11.2	0.308	2.748	20.62	7	4	silty clay to clay
22.64	11.6	0.360	3.100	21.03	7	4	silty clay to clay
22.70	12.2	0.444	3.633	21.75	8	4	silty clay to clay
22.77	12.4	0.406	3.281	22.17	8	4	silty clay to clay
22.83	12.5	0.390	3.131	22.54	8	4	silty clay to clay
22.90	12.4	0.401	3.234	22.81	8	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	12.1	0.388	3.214	23.16	8	4	silty clay to clay
23.03	12.1	0.347	2.879	23.65	8	4	silty clay to clay
23.10	12.5	0.323	2.588	24.20	8	4	silty clay to clay
23.16	12.7	0.334	2.628	24.67	8	4	silty clay to clay
23.23	13.1	0.351	2.681	25.27	6	5	clayey silt to silty clay
23.29	13.2	0.359	2.729	25.63	6	5	clayey silt to silty clay
23.36	13.4	0.335	2.494	26.37	6	5	clayey silt to silty clay
23.43	13.6	0.298	2.191	27.01	6	5	clayey silt to silty clay
23.49	13.5	0.261	1.939	27.57	6	5	clayey silt to silty clay
23.56	12.8	0.295	2.300	27.87	6	5	clayey silt to silty clay
23.62	12.2	0.315	2.581	28.13	6	5	clayey silt to silty clay
23.69	11.4	0.347	3.035	28.73	8	4	silty clay to clay
23.75	11.8	0.392	3.328	29.64	6	5	clayey silt to silty clay
23.82	12.9	0.443	3.429	30.35	7	5	clayey silt to silty clay
23.88	15.6	0.448	2.868	31.02	7	5	clayey silt to silty clay
23.95	17.2	0.398	2.311	31.13	7	5	clayey silt to silty clay
24.02	17.4	0.299	1.725	30.71	7	5	clayey silt to silty clay
24.08	16.5	0.276	1.676	28.92	7	5	clayey silt to silty clay
24.15	15.5	0.300	1.943	25.49	7	5	clayey silt to silty clay
24.21	12.7	0.347	2.739	24.01	7	5	clayey silt to silty clay
24.28	11.4	0.379	3.321	24.29	6	5	clayey silt to silty clay
24.34	11.8	0.309	2.619	26.41	8	4	silty clay to clay
24.41	12.8	0.440	3.432	27.51	8	4	silty clay to clay
24.48	12.8	0.502	3.911	27.72	8	4	silty clay to clay
24.54	12.4	0.443	3.580	27.77	8	4	silty clay to clay
24.61	11.4	0.390	3.426	28.07	8	4	silty clay to clay
24.67	10.4	0.273	2.629	28.47	7	4	silty clay to clay
24.74	11.1	0.205	1.845	19.61	5	5	clayey silt to silty clay
24.80	11.4	0.159	1.395	19.62	5	5	clayey silt to silty clay
24.87	10.6	0.141	1.327	19.82	5	5	clayey silt to silty clay
24.93	10.1	0.130	1.283	19.98	5	5	clayey silt to silty clay
25.00	9.8	0.130	1.334	20.27	5	5	clayey silt to silty clay
25.07	9.6	0.117	1.225	20.62	5	5	clayey silt to silty clay
25.13	9.6	0.120	1.241	21.25	5	5	clayey silt to silty clay
25.20	9.8	0.138	1.411	23.01	5	5	clayey silt to silty clay
25.26	9.8	0.142	1.456	23.82	5	5	clayey silt to silty clay
25.33	9.9	0.148	1.506	24.61	5	5	clayey silt to silty clay
25.39	10.1	0.174	1.721	25.21	5	5	clayey silt to silty clay
25.46	10.6	0.159	1.509	26.22	5	5	clayey silt to silty clay
25.52	10.8	0.144	1.334	26.67	5	5	clayey silt to silty clay
25.59	11.0	0.122	1.106	27.14	5	5	clayey silt to silty clay
25.66	11.1	0.116	1.042	27.82	5	5	clayey silt to silty clay
25.72	10.9	0.105	0.966	28.47	5	5	clayey silt to silty clay
25.79	10.5	0.113	1.075	29.92	5	5	clayey silt to silty clay
25.85	10.5	0.151	1.437	31.20	5	5	clayey silt to silty clay
25.92	10.4	0.172	1.660	32.06	5	5	clayey silt to silty clay
25.98	10.5	0.189	1.805	32.92	5	5	clayey silt to silty clay
26.05	10.5	0.225	2.137	33.55	5	5	clayey silt to silty clay
26.12	10.9	0.189	1.731	33.99	5	5	clayey silt to silty clay
26.18	11.9	0.128	1.078	34.45	5	5	clayey silt to silty clay
26.25	11.9	0.105	0.881	34.62	5	5	clayey silt to silty clay
26.31	11.6	0.119	1.023	34.81	5	5	clayey silt to silty clay
26.38	10.4	0.175	1.681	35.07	5	5	clayey silt to silty clay
26.44	10.1	0.197	1.947	35.66	5	5	clayey silt to silty clay
26.51	10.2	0.191	1.875	36.53	5	5	clayey silt to silty clay
26.57	10.4	0.195	1.878	37.17	5	5	clayey silt to silty clay
26.64	11.2	0.215	1.914	38.01	5	5	clayey silt to silty clay
26.71	11.3	0.197	1.738	38.44	5	5	clayey silt to silty clay
26.77	11.2	0.178	1.587	39.29	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	11.4	0.159	1.389	39.92	5	5	clayey silt to silty clay
26.90	11.7	0.158	1.349	40.57	5	5	clayey silt to silty clay
26.97	11.6	0.176	1.527	41.07	6	5	clayey silt to silty clay
27.03	11.5	0.187	1.630	41.61	6	5	clayey silt to silty clay
27.10	11.7	0.188	1.603	42.26	6	5	clayey silt to silty clay
27.17	12.3	0.166	1.351	43.26	6	5	clayey silt to silty clay
27.23	12.4	0.132	1.067	43.91	6	5	clayey silt to silty clay
27.30	12.3	0.140	1.138	44.59	6	5	clayey silt to silty clay
27.36	11.9	0.210	1.762	45.27	6	5	clayey silt to silty clay
27.43	11.5	0.343	2.972	46.47	8	4	silty clay to clay
27.49	11.8	0.497	4.196	47.71	13	3	clay
27.56	13.4	0.625	4.656	48.97	15	3	clay
27.62	16.5	0.930	5.628	51.17	16	3	clay
27.69	19.4	1.073	5.534	52.37	18	3	clay
27.76	21.5	1.180	5.492	51.21	16	4	silty clay to clay
27.82	23.0	1.214	5.273	48.20	16	5	clayey silt to silty clay
27.89	26.0	1.100	4.239	48.57	15	6	sandy silt to clayey silt
27.95	57.2	0.973	1.699	19.13	17	6	sandy silt to clayey silt
28.02	63.8	0.895	1.403	18.88	19	6	sandy silt to clayey silt
28.08	63.2	0.965	1.528	17.79	17	7	silty sand to sandy silt
28.15	60.0	1.055	1.759	13.63	19	7	silty sand to sandy silt
28.22	57.1	1.117	1.958	11.17	18	7	silty sand to sandy silt
28.28	55.6	1.101	1.981	10.15	18	7	silty sand to sandy silt
28.35	53.6	1.138	2.124	9.89	18	7	silty sand to sandy silt
28.41	52.2	1.134	2.171	9.71	21	6	sandy silt to clayey silt
28.48	52.4	1.075	2.051	9.60	21	6	sandy silt to clayey silt
28.54	54.0	1.075	1.989	9.50	22	6	sandy silt to clayey silt
28.61	57.9	1.131	1.955	9.42	19	7	silty sand to sandy silt
28.67	62.0	1.227	1.980	9.34	20	7	silty sand to sandy silt
28.74	66.2	1.358	2.051	9.30	22	7	silty sand to sandy silt
28.81	74.8	1.356	1.814	9.25	24	7	silty sand to sandy silt
28.87	81.8	1.198	1.465	9.22	25	7	silty sand to sandy silt
28.94	87.2	0.976	1.119	9.11	27	7	silty sand to sandy silt
29.00	90.9	0.989	1.088	9.03	21	8	sand to silty sand
29.07	93.6	1.134	1.211	8.92	22	8	sand to silty sand
29.13	94.1	1.225	1.302	8.82	22	8	sand to silty sand
29.20	92.8	1.213	1.307	8.73	29	7	silty sand to sandy silt
29.27	91.3	1.275	1.397	8.67	28	7	silty sand to sandy silt
29.33	89.1	1.549	1.738	8.63	27	7	silty sand to sandy silt
29.40	82.0	1.607	1.960	8.62	25	7	silty sand to sandy silt
29.46	74.1	1.562	2.108	8.55	28	6	sandy silt to clayey silt
29.53	64.0	1.735	2.712	8.11	26	6	sandy silt to clayey silt
29.59	56.0	2.129	3.802	8.13	32	5	clayey silt to silty clay
29.66	51.6	2.587	5.008	8.42	35	5	clayey silt to silty clay
29.72	49.6	3.229	6.505	8.65	33	6	sandy silt to clayey silt
29.79	84.3	3.194	3.789	9.26	38	6	sandy silt to clayey silt
29.86	137.4	3.710	2.700	10.21	42	6	sandy silt to clayey silt
29.92	163.0	4.263	2.615	10.53	46	6	sandy silt to clayey silt
29.99	156.2	4.657	2.982	10.55	48	6	sandy silt to clayey silt
30.05	134.7	5.126	3.807	10.48	46	6	sandy silt to clayey silt
30.12	109.7	5.034	4.589	10.29	103	11	very stiff fine grained (*)
30.18	84.0	4.855	5.779	9.98	86	11	very stiff fine grained (*)
30.25	59.8	4.261	7.127	9.70	70	11	very stiff fine grained (*)
30.31	46.7	3.265	6.996	9.53	55	3	clay
30.38	38.6	2.422	6.276	9.42	45	3	clay
30.45	35.3	1.671	4.732	9.33	40	3	clay
30.51	30.5	1.267	4.148	9.36	24	4	silty clay to clay
30.58	37.0	1.232	3.331	9.75	23	4	silty clay to clay
30.64	42.9	1.118	2.608	10.04	21	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	35.9	1.197	3.335	10.02	21	4	silty clay to clay
30.77	28.4	1.217	4.281	22.07	22	4	silty clay to clay
30.84	21.7	1.446	6.656	16.49	23	4	silty clay to clay
30.91	31.0	1.755	5.662	17.84	23	4	silty clay to clay
30.97	43.4	1.926	4.436	19.93	24	4	silty clay to clay
31.04	47.1	1.998	4.240	19.74	25	4	silty clay to clay
31.10	45.5	2.058	4.521	16.17	28	4	silty clay to clay
31.17	43.4	1.896	4.367	13.62	23	5	clayey silt to silty clay
31.23	45.2	1.748	3.865	12.77	20	6	sandy silt to clayey silt
31.30	51.5	1.524	2.962	13.20	22	6	sandy silt to clayey silt
31.36	61.1	1.139	1.865	13.39	23	6	sandy silt to clayey silt
31.43	71.6	0.956	1.335	12.91	25	6	sandy silt to clayey silt
31.50	75.3	1.178	1.564	12.73	23	7	silty sand to sandy silt
31.56	75.9	2.099	2.765	12.53	26	7	silty sand to sandy silt
31.63	77.6	1.895	2.441	12.34	28	7	silty sand to sandy silt
31.69	84.1	1.682	2.001	12.33	27	7	silty sand to sandy silt
31.76	115.5	1.627	1.409	12.48	26	7	silty sand to sandy silt
31.82	112.5	1.380	1.227	12.28	24	7	silty sand to sandy silt
31.89	57.7	1.074	1.863	12.16	22	7	silty sand to sandy silt
31.96	44.2	0.830	1.878	11.91	19	7	silty sand to sandy silt
32.02	36.7	0.428	1.168	11.73	15	7	silty sand to sandy silt
32.09	31.3	0.493	1.577	11.74	13	6	sandy silt to clayey silt
32.15	25.8	0.542	2.098	11.87	11	6	sandy silt to clayey silt
32.22	21.8	0.569	2.612	11.92	12	6	sandy silt to clayey silt
32.28	19.7	0.882	4.480	12.03	16	5	clayey silt to silty clay
32.35	24.6	1.145	4.650	12.27	17	5	clayey silt to silty clay
32.41	50.9	1.566	3.077	12.88	18	5	clayey silt to silty clay
32.48	56.5	1.624	2.873	13.20	20	5	clayey silt to silty clay
32.55	47.1	1.425	3.026	12.78	22	5	clayey silt to silty clay
32.61	47.8	1.852	3.877	12.58	20	6	sandy silt to clayey silt
32.68	44.7	1.618	3.622	12.39	21	6	sandy silt to clayey silt
32.74	54.0	1.393	2.580	12.28	21	6	sandy silt to clayey silt
32.81	67.8	1.430	2.108	12.07	20	6	sandy silt to clayey silt
32.87	70.7	1.357	1.919	11.60	20	6	sandy silt to clayey silt
32.94	47.6	1.322	2.777	11.63	20	6	sandy silt to clayey silt
33.01	41.7	1.285	3.079	11.48	20	6	sandy silt to clayey silt
33.07	39.1	1.018	2.602	11.93	17	7	silty sand to sandy silt
33.14	43.1	0.840	1.951	12.20	17	7	silty sand to sandy silt
33.20	54.6	0.689	1.263	12.75	19	7	silty sand to sandy silt
33.27	70.2	0.582	0.829	13.00	21	7	silty sand to sandy silt
33.33	85.5	0.627	0.734	12.73	23	7	silty sand to sandy silt
33.40	88.7	0.657	0.740	12.56	18	8	sand to silty sand
33.46	85.7	0.965	1.126	11.94	25	7	silty sand to sandy silt
33.53	79.7	1.340	1.682	11.65	26	7	silty sand to sandy silt
33.60	75.1	1.457	1.940	11.48	27	7	silty sand to sandy silt
33.66	72.1	1.745	2.421	11.54	28	7	silty sand to sandy silt
33.73	82.2	1.402	1.706	11.89	31	7	silty sand to sandy silt
33.79	102.5	1.308	1.276	12.26	25	8	sand to silty sand
33.86	124.5	1.336	1.073	12.26	27	8	sand to silty sand
33.92	135.5	1.581	1.167	12.06	29	8	sand to silty sand
33.99	125.0	1.791	1.432	11.71	31	8	sand to silty sand
34.06	139.8	1.893	1.354	11.27	33	8	sand to silty sand
34.12	141.7	2.002	1.413	11.18	34	8	sand to silty sand
34.19	143.4	2.225	1.551	11.34	34	8	sand to silty sand
34.25	145.9	2.397	1.642	11.46	36	8	sand to silty sand
34.32	151.1	2.508	1.660	11.49	37	8	sand to silty sand
34.38	158.8	2.623	1.652	11.53	39	8	sand to silty sand
34.45	169.5	2.891	1.705	11.66	0	0	<out of range>
34.51	179.0	3.301	1.844	11.99	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	189.5	4.282	2.259	12.13	55	8	sand to silty sand
34.65	203.5	-32768	-32768	12.25	0	0	<out of range>
34.71	222.3	-32768	-32768	12.50	0	0	<out of range>
34.78	245.8	-32768	-32768	13.29	0	0	<out of range>
34.84	288.8	-32768	-32768	13.96	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

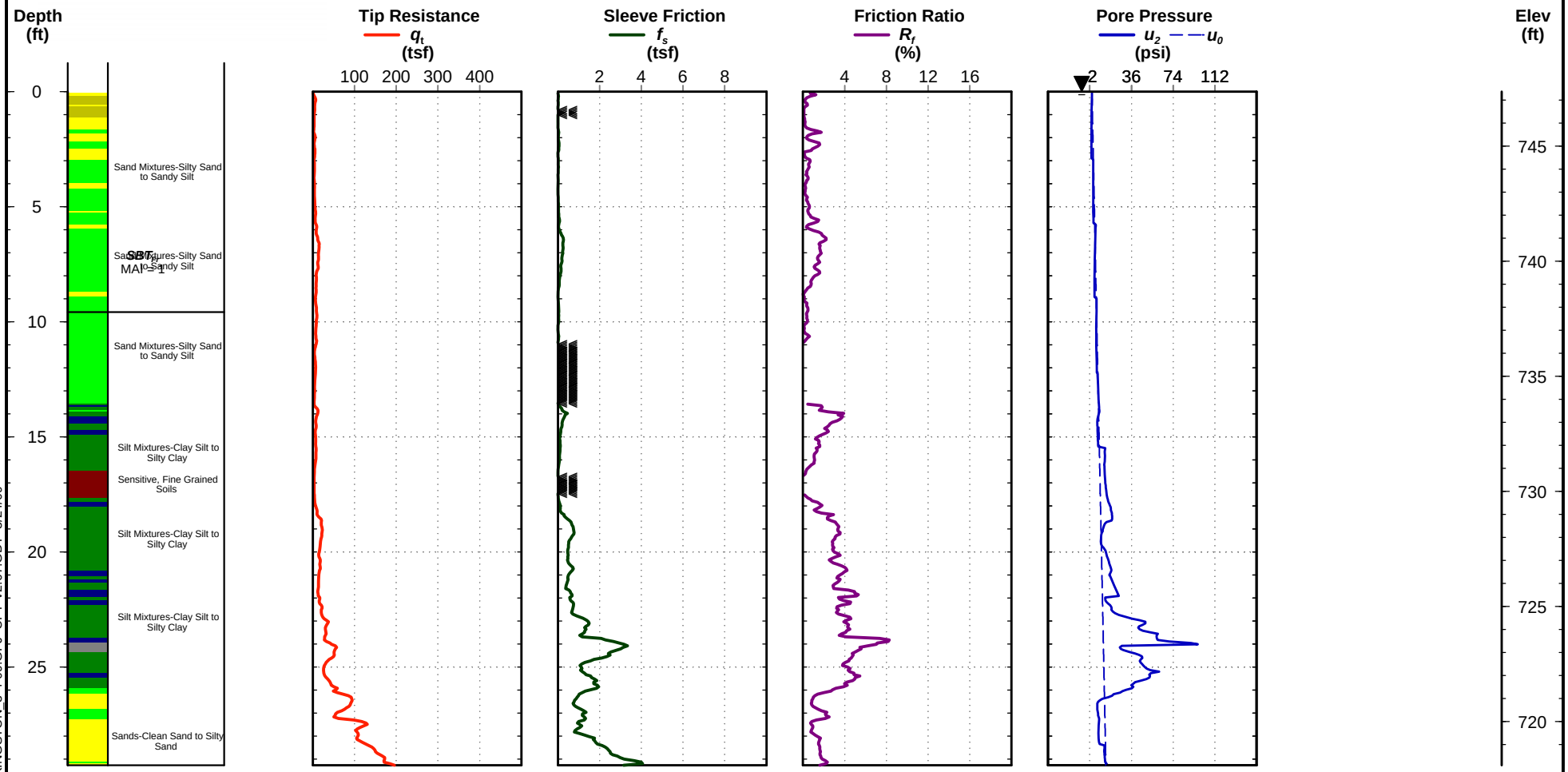
09-207-C1

Project No: 60095742

Date: Jan. 29, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557645.64
Easting: 2441280.54
Elevation: 747.37 NGVD

Total Depth: 29.3 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



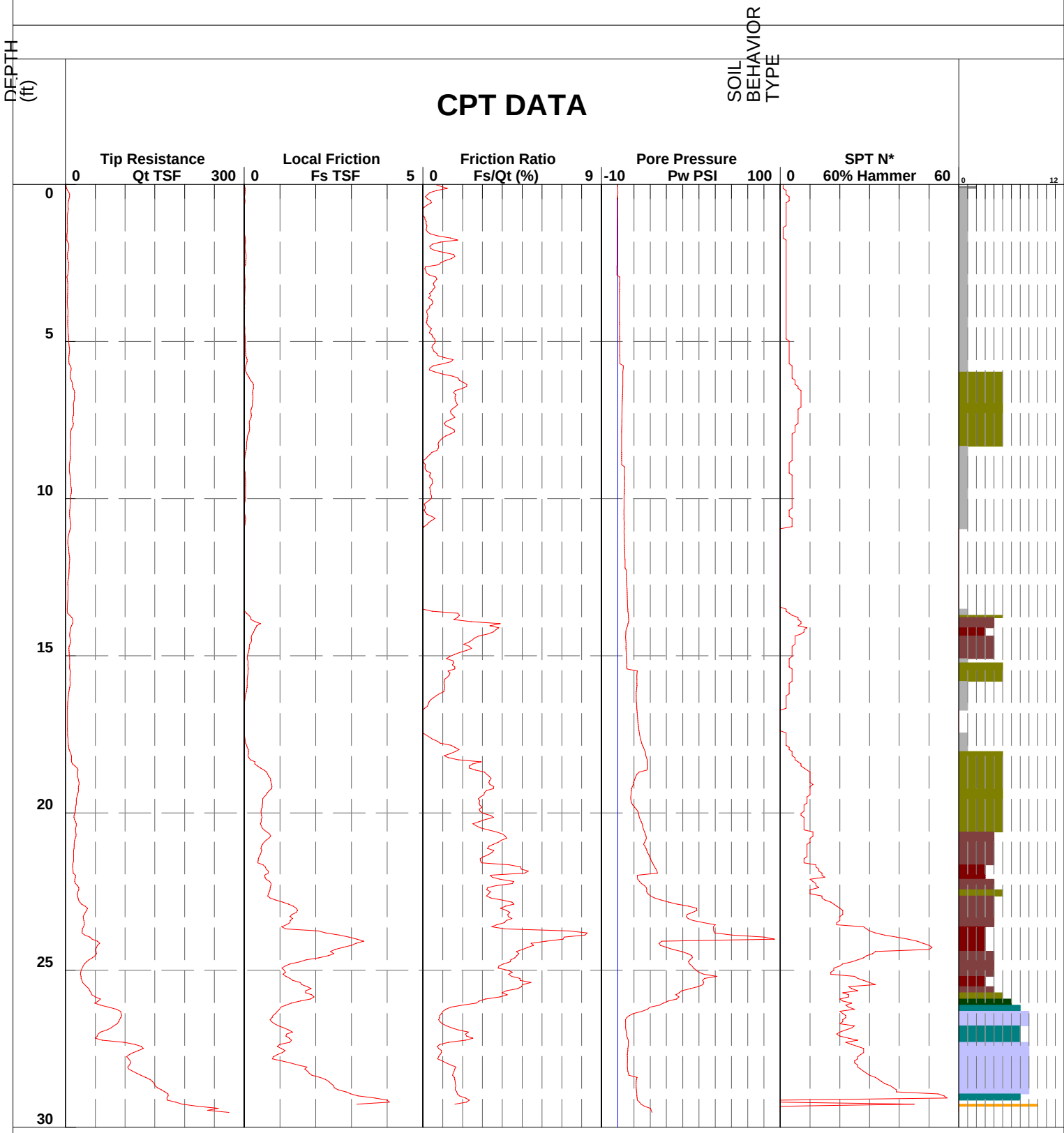
CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

09-207-C1

Electronic Filename: 09-207-C1.cpt

AECOM

09-207-C1	60095742	1/29/2009 1:32:14 PM
DSG0870	TVA-Kingston	CME-850/CAP



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-207-C1 1/29/2009 1:32:14 PM
Operator:CME-850/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:English

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.8	0.006	0.685	-0.10	1	2	organic material
0.13	1.9	0.023	1.234	0.01	1	1	sensitive fine grained
0.20	3.7	0.026	0.693	0.06	2	1	sensitive fine grained
0.26	5.9	0.021	0.350	0.10	2	1	sensitive fine grained
0.33	6.9	0.017	0.240	0.07	2	1	sensitive fine grained
0.39	6.7	0.009	0.132	-0.13	3	1	sensitive fine grained
0.46	5.9	0.013	0.220	-0.25	3	1	sensitive fine grained
0.52	5.0	0.020	0.398	-0.24	3	1	sensitive fine grained
0.59	4.4	0.019	0.420	-0.29	2	1	sensitive fine grained
0.66	4.2	0.009	0.220	-0.27	2	1	sensitive fine grained
0.72	4.2	0.003	0.077	-0.30	2	1	sensitive fine grained
0.79	4.7	-0.002	-0.036	-0.29	2	1	sensitive fine grained
0.85	4.3	-0.001	-0.023	-0.30	2	1	sensitive fine grained
0.92	3.7	-0.003	-0.077	-0.33	2	1	sensitive fine grained
0.98	3.1	-0.002	-0.054	-0.35	2	1	sensitive fine grained
1.05	3.0	0.003	0.095	-0.34	2	1	sensitive fine grained
1.12	3.0	0.003	0.106	-0.36	2	1	sensitive fine grained
1.18	3.1	0.005	0.165	-0.39	2	1	sensitive fine grained
1.25	3.2	0.005	0.157	-0.38	2	1	sensitive fine grained
1.31	3.2	0.007	0.201	-0.40	2	1	sensitive fine grained
1.38	3.3	0.006	0.189	-0.40	1	1	sensitive fine grained
1.44	3.2	0.005	0.156	-0.42	1	1	sensitive fine grained
1.51	3.0	0.007	0.232	-0.40	1	1	sensitive fine grained
1.57	2.7	0.010	0.368	-0.40	1	1	sensitive fine grained
1.64	2.3	0.018	0.761	-0.44	1	1	sensitive fine grained
1.71	2.2	0.030	1.378	-0.40	1	1	sensitive fine grained
1.77	2.2	0.039	1.753	-0.44	2	1	sensitive fine grained
1.84	4.0	0.035	0.881	-0.40	2	1	sensitive fine grained
1.90	5.1	0.025	0.497	-0.39	2	1	sensitive fine grained
1.97	5.6	0.020	0.349	-0.41	2	1	sensitive fine grained
2.03	5.4	0.020	0.369	-0.39	2	1	sensitive fine grained
2.10	4.6	0.027	0.580	-0.42	2	1	sensitive fine grained
2.17	3.8	0.040	1.063	-0.43	2	1	sensitive fine grained
2.23	3.3	0.052	1.552	-0.44	2	1	sensitive fine grained
2.30	3.2	0.052	1.615	-0.43	2	1	sensitive fine grained
2.36	3.5	0.051	1.442	-0.44	2	1	sensitive fine grained
2.43	4.0	0.046	1.134	-0.44	2	1	sensitive fine grained
2.49	4.8	0.044	0.900	-0.44	2	1	sensitive fine grained
2.56	5.3	0.042	0.789	-0.45	2	1	sensitive fine grained
2.62	5.1	0.006	0.126	-0.46	2	1	sensitive fine grained
2.69	4.9	0.005	0.096	-0.47	2	1	sensitive fine grained
2.76	4.6	0.007	0.162	-0.47	2	1	sensitive fine grained
2.82	4.1	0.007	0.171	-0.46	2	1	sensitive fine grained
2.89	3.9	0.013	0.330	-0.48	2	1	sensitive fine grained
2.95	2.4	0.015	0.648	1.21	2	1	sensitive fine grained
3.02	3.1	0.021	0.698	1.21	2	1	sensitive fine grained
3.08	3.6	0.022	0.616	1.20	2	1	sensitive fine grained
3.15	3.9	0.020	0.529	1.21	2	1	sensitive fine grained
3.22	3.9	0.022	0.558	1.17	2	1	sensitive fine grained
3.28	3.8	0.024	0.613	1.16	2	1	sensitive fine grained
3.35	3.7	0.019	0.506	1.14	2	1	sensitive fine grained
3.41	3.6	0.016	0.438	1.11	2	1	sensitive fine grained
3.48	3.6	0.012	0.334	1.09	2	1	sensitive fine grained
3.54	3.5	0.013	0.379	1.09	2	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	3.4	0.010	0.282	1.08	2	1	sensitive fine grained
3.67	3.0	0.013	0.441	1.07	2	1	sensitive fine grained
3.74	2.9	0.014	0.495	1.07	2	1	sensitive fine grained
3.81	3.0	0.015	0.485	1.06	2	1	sensitive fine grained
3.87	3.3	0.011	0.340	1.06	2	1	sensitive fine grained
3.94	3.7	0.013	0.343	1.05	2	1	sensitive fine grained
4.00	4.0	0.008	0.209	1.06	2	1	sensitive fine grained
4.07	4.2	0.008	0.187	1.07	2	1	sensitive fine grained
4.13	4.0	0.009	0.232	1.09	2	1	sensitive fine grained
4.20	3.9	0.010	0.251	1.09	2	1	sensitive fine grained
4.27	3.8	0.008	0.216	1.09	2	1	sensitive fine grained
4.33	3.8	0.008	0.206	1.09	2	1	sensitive fine grained
4.40	3.8	0.006	0.170	1.11	2	1	sensitive fine grained
4.46	3.9	0.009	0.224	1.12	2	1	sensitive fine grained
4.53	4.0	0.012	0.316	1.13	2	1	sensitive fine grained
4.59	4.1	0.018	0.435	1.14	2	1	sensitive fine grained
4.66	4.2	0.015	0.364	1.15	2	1	sensitive fine grained
4.72	4.4	0.014	0.328	1.16	2	1	sensitive fine grained
4.79	4.7	0.021	0.451	1.18	2	1	sensitive fine grained
4.86	4.9	0.024	0.488	1.19	2	1	sensitive fine grained
4.92	5.1	0.030	0.589	1.19	2	1	sensitive fine grained
4.99	5.2	0.032	0.623	1.20	3	1	sensitive fine grained
5.05	5.4	0.033	0.602	1.21	3	1	sensitive fine grained
5.12	5.9	0.029	0.494	1.20	3	1	sensitive fine grained
5.18	6.4	0.029	0.450	1.23	3	1	sensitive fine grained
5.25	6.7	0.034	0.507	1.22	3	1	sensitive fine grained
5.31	6.7	0.037	0.555	1.25	3	1	sensitive fine grained
5.38	6.4	0.045	0.701	1.25	3	1	sensitive fine grained
5.45	5.9	0.045	0.756	1.26	3	1	sensitive fine grained
5.51	5.6	0.061	1.092	1.28	3	1	sensitive fine grained
5.58	5.6	0.084	1.519	1.30	3	1	sensitive fine grained
5.64	5.6	0.079	1.409	1.29	3	1	sensitive fine grained
5.71	5.9	0.060	1.008	1.30	3	1	sensitive fine grained
5.77	8.2	0.043	0.526	3.48	4	1	sensitive fine grained
5.84	9.5	0.034	0.355	3.42	4	1	sensitive fine grained
5.91	9.3	0.030	0.326	3.26	4	1	sensitive fine grained
5.97	8.4	0.052	0.620	3.16	4	5	clayey silt to silty clay
6.04	7.9	0.079	0.996	3.13	4	5	clayey silt to silty clay
6.10	7.8	0.117	1.501	3.08	4	5	clayey silt to silty clay
6.17	8.3	0.147	1.780	3.08	4	5	clayey silt to silty clay
6.23	9.6	0.177	1.839	3.08	5	5	clayey silt to silty clay
6.30	11.3	0.229	2.033	3.09	5	5	clayey silt to silty clay
6.36	11.6	0.258	2.213	3.09	5	5	clayey silt to silty clay
6.43	11.7	0.259	2.207	3.09	6	5	clayey silt to silty clay
6.50	13.0	0.257	1.973	3.04	6	5	clayey silt to silty clay
6.56	14.8	0.242	1.639	3.03	7	5	clayey silt to silty clay
6.63	15.2	0.235	1.544	3.00	7	5	clayey silt to silty clay
6.69	14.6	0.242	1.654	2.95	7	5	clayey silt to silty clay
6.76	15.1	0.244	1.620	2.91	7	5	clayey silt to silty clay
6.82	15.2	0.245	1.619	2.85	7	5	clayey silt to silty clay
6.89	14.3	0.236	1.648	2.77	7	5	clayey silt to silty clay
6.96	13.5	0.229	1.695	2.71	7	5	clayey silt to silty clay
7.02	13.3	0.233	1.748	2.70	7	5	clayey silt to silty clay
7.09	13.5	0.218	1.615	2.65	7	5	clayey silt to silty clay
7.15	13.6	0.199	1.465	2.65	6	5	clayey silt to silty clay
7.22	13.5	0.188	1.391	2.63	6	5	clayey silt to silty clay
7.28	13.8	0.194	1.408	2.61	6	5	clayey silt to silty clay
7.35	13.2	0.200	1.517	2.59	6	5	clayey silt to silty clay
7.41	12.0	0.194	1.607	2.58	6	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	11.7	0.166	1.415	2.56	6	5	clayey silt to silty clay
7.55	12.3	0.144	1.172	2.53	6	5	clayey silt to silty clay
7.61	13.2	0.142	1.075	2.51	6	5	clayey silt to silty clay
7.68	12.9	0.148	1.148	2.50	5	5	clayey silt to silty clay
7.74	11.0	0.152	1.379	2.44	5	5	clayey silt to silty clay
7.81	9.4	0.149	1.581	2.40	5	5	clayey silt to silty clay
7.87	8.6	0.137	1.597	2.36	5	5	clayey silt to silty clay
7.94	8.3	0.116	1.399	2.37	4	5	clayey silt to silty clay
8.01	8.3	0.096	1.151	2.35	4	5	clayey silt to silty clay
8.07	8.7	0.086	0.987	2.34	4	5	clayey silt to silty clay
8.14	8.9	0.079	0.888	2.34	4	5	clayey silt to silty clay
8.20	8.7	0.069	0.792	2.34	4	5	clayey silt to silty clay
8.27	8.3	0.063	0.761	2.33	4	5	clayey silt to silty clay
8.33	8.0	0.063	0.789	2.35	4	1	sensitive fine grained
8.40	7.9	0.061	0.772	2.36	4	1	sensitive fine grained
8.46	7.9	0.055	0.704	2.36	4	1	sensitive fine grained
8.53	7.8	0.035	0.447	2.37	4	1	sensitive fine grained
8.60	7.9	0.028	0.357	2.39	4	1	sensitive fine grained
8.66	8.2	0.018	0.225	2.39	4	1	sensitive fine grained
8.73	8.4	0.013	0.159	2.38	4	1	sensitive fine grained
8.79	7.6	0.001	0.007	2.40	4	1	sensitive fine grained
8.86	6.9	0.003	0.047	2.41	3	1	sensitive fine grained
8.92	6.5	0.009	0.132	2.42	3	1	sensitive fine grained
8.99	6.5	0.007	0.102	4.17	3	1	sensitive fine grained
9.06	6.5	0.007	0.113	4.19	3	1	sensitive fine grained
9.12	6.5	0.013	0.195	4.16	3	1	sensitive fine grained
9.19	7.0	0.027	0.392	4.16	3	1	sensitive fine grained
9.25	7.6	0.026	0.346	4.16	4	1	sensitive fine grained
9.32	8.0	0.028	0.348	4.16	4	1	sensitive fine grained
9.38	8.4	0.039	0.461	4.20	4	1	sensitive fine grained
9.45	8.6	0.041	0.475	4.20	4	1	sensitive fine grained
9.51	8.5	0.041	0.482	4.24	4	1	sensitive fine grained
9.58	8.8	0.036	0.405	4.16	4	1	sensitive fine grained
9.65	9.5	0.033	0.343	4.12	4	1	sensitive fine grained
9.71	10.0	0.036	0.360	4.13	4	1	sensitive fine grained
9.78	9.9	0.038	0.379	4.03	4	1	sensitive fine grained
9.84	9.3	0.035	0.375	4.07	4	1	sensitive fine grained
9.91	8.5	0.037	0.433	3.95	4	1	sensitive fine grained
9.97	8.3	0.037	0.440	3.94	4	1	sensitive fine grained
10.04	8.4	0.030	0.351	3.91	4	1	sensitive fine grained
10.10	8.2	0.017	0.205	3.91	4	1	sensitive fine grained
10.17	7.8	0.005	0.069	3.93	4	1	sensitive fine grained
10.24	7.6	0.008	0.107	3.90	4	1	sensitive fine grained
10.30	7.5	0.010	0.127	3.91	4	1	sensitive fine grained
10.37	7.1	0.004	0.059	3.86	3	1	sensitive fine grained
10.43	6.7	0.008	0.126	3.83	3	1	sensitive fine grained
10.50	6.7	0.013	0.202	3.84	3	1	sensitive fine grained
10.56	7.0	0.031	0.452	3.90	3	1	sensitive fine grained
10.63	7.3	0.045	0.615	3.87	4	1	sensitive fine grained
10.70	7.7	0.034	0.441	3.93	4	1	sensitive fine grained
10.76	8.4	0.025	0.296	4.03	4	1	sensitive fine grained
10.83	9.1	0.019	0.208	3.99	4	1	sensitive fine grained
10.89	9.0	0.005	0.056	3.96	4	1	sensitive fine grained
10.96	8.1	-0.009	-0.109	3.98	0	0	<out of range>
11.02	7.0	-0.015	-0.216	3.96	0	0	<out of range>
11.09	6.1	-0.022	-0.351	3.92	0	0	<out of range>
11.15	5.3	-0.025	-0.477	4.03	0	0	<out of range>
11.22	4.5	-0.023	-0.507	3.97	0	0	<out of range>
11.29	4.1	-0.023	-0.568	4.00	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	3.8	-0.025	-0.657	4.08	0	0	<out of range>
11.42	3.8	-0.021	-0.546	4.11	0	0	<out of range>
11.48	4.2	-0.019	-0.456	4.08	0	0	<out of range>
11.55	4.8	-0.016	-0.326	4.22	0	0	<out of range>
11.61	5.3	-0.010	-0.188	4.24	0	0	<out of range>
11.68	5.6	-0.007	-0.120	4.29	0	0	<out of range>
11.75	6.0	-0.008	-0.130	4.32	0	0	<out of range>
11.81	6.4	-0.011	-0.165	4.37	0	0	<out of range>
11.88	7.1	-0.010	-0.135	4.38	0	0	<out of range>
11.94	7.1	-0.011	-0.161	4.43	0	0	<out of range>
12.01	6.8	-0.017	-0.258	4.42	0	0	<out of range>
12.07	6.4	-0.023	-0.354	4.42	0	0	<out of range>
12.14	6.4	-0.021	-0.327	4.45	0	0	<out of range>
12.20	6.4	-0.021	-0.334	4.52	0	0	<out of range>
12.27	6.0	-0.028	-0.472	5.22	0	0	<out of range>
12.34	5.9	-0.034	-0.580	5.22	0	0	<out of range>
12.40	5.8	-0.036	-0.626	5.24	0	0	<out of range>
12.47	5.5	-0.032	-0.582	5.27	0	0	<out of range>
12.53	4.8	-0.032	-0.657	5.29	0	0	<out of range>
12.60	4.2	-0.030	-0.707	5.33	0	0	<out of range>
12.66	3.9	-0.030	-0.774	5.43	0	0	<out of range>
12.73	4.0	-0.029	-0.742	5.58	0	0	<out of range>
12.80	4.2	-0.029	-0.705	5.66	0	0	<out of range>
12.86	4.3	-0.032	-0.730	5.70	0	0	<out of range>
12.93	4.4	-0.031	-0.704	5.75	0	0	<out of range>
12.99	4.3	-0.034	-0.790	5.78	0	0	<out of range>
13.06	4.2	-0.036	-0.852	5.79	0	0	<out of range>
13.12	4.1	-0.036	-0.881	5.85	0	0	<out of range>
13.19	4.0	-0.036	-0.890	5.87	0	0	<out of range>
13.25	3.8	-0.040	-1.046	5.92	0	0	<out of range>
13.32	3.6	-0.041	-1.141	5.95	0	0	<out of range>
13.39	3.2	-0.041	-1.256	6.02	0	0	<out of range>
13.45	3.0	-0.030	-1.012	6.10	0	0	<out of range>
13.52	2.9	-0.004	-0.149	6.18	2	1	sensitive fine grained
13.58	3.0	0.014	0.457	6.28	2	1	sensitive fine grained
13.65	3.6	0.064	1.761	6.40	3	1	sensitive fine grained
13.71	7.0	0.130	1.846	6.52	4	5	clayey silt to silty clay
13.78	10.6	0.184	1.733	6.61	6	4	silty clay to clay
13.85	12.5	0.195	1.561	6.74	6	4	silty clay to clay
13.91	12.5	0.303	2.419	6.70	7	4	silty clay to clay
13.98	11.7	0.457	3.901	6.34	7	4	silty clay to clay
14.04	10.3	0.348	3.374	6.09	6	4	silty clay to clay
14.11	8.5	0.326	3.824	5.56	9	3	clay
14.17	7.9	0.290	3.679	5.14	8	3	clay
14.24	7.5	0.265	3.545	5.01	8	3	clay
14.30	7.0	0.230	3.274	4.96	7	3	clay
14.37	7.2	0.202	2.819	4.93	5	4	silty clay to clay
14.44	7.6	0.196	2.591	4.93	5	4	silty clay to clay
14.50	8.3	0.206	2.482	4.99	5	4	silty clay to clay
14.57	8.3	0.191	2.311	5.03	5	4	silty clay to clay
14.63	7.5	0.155	2.068	5.11	5	4	silty clay to clay
14.70	6.2	0.145	2.338	5.08	4	4	silty clay to clay
14.76	5.6	0.139	2.454	5.06	4	4	silty clay to clay
14.83	5.9	0.130	2.200	5.10	4	4	silty clay to clay
14.90	6.1	0.113	1.853	5.18	4	4	silty clay to clay
14.96	6.3	0.100	1.583	5.25	4	4	silty clay to clay
15.03	6.7	0.090	1.347	5.28	4	4	silty clay to clay
15.09	6.9	0.082	1.189	5.31	3	1	sensitive fine grained
15.16	6.9	0.105	1.513	5.40	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	7.0	0.108	1.548	5.48	3	5	clayey silt to silty clay
15.29	6.9	0.102	1.483	5.54	3	5	clayey silt to silty clay
15.35	6.8	0.110	1.611	5.61	3	5	clayey silt to silty clay
15.42	7.0	0.112	1.612	5.72	4	5	clayey silt to silty clay
15.49	8.2	0.104	1.264	12.00	4	5	clayey silt to silty clay
15.55	7.9	0.108	1.364	11.87	4	5	clayey silt to silty clay
15.62	7.5	0.099	1.326	11.76	4	5	clayey silt to silty clay
15.68	7.5	0.092	1.231	11.74	4	5	clayey silt to silty clay
15.75	7.4	0.081	1.093	11.75	4	5	clayey silt to silty clay
15.81	7.5	0.081	1.079	11.82	4	1	sensitive fine grained
15.88	7.7	0.082	1.063	11.80	3	1	sensitive fine grained
15.94	7.6	0.084	1.101	11.83	3	1	sensitive fine grained
16.01	7.2	0.079	1.106	11.73	3	1	sensitive fine grained
16.08	6.3	0.067	1.075	11.53	3	1	sensitive fine grained
16.14	5.7	0.060	1.057	11.43	3	1	sensitive fine grained
16.21	5.2	0.043	0.822	11.29	3	1	sensitive fine grained
16.27	4.8	0.032	0.668	11.31	2	1	sensitive fine grained
16.34	4.4	0.023	0.520	11.37	2	1	sensitive fine grained
16.40	4.0	0.015	0.382	11.42	2	1	sensitive fine grained
16.47	3.7	0.011	0.306	11.52	2	1	sensitive fine grained
16.54	3.6	0.010	0.269	11.61	2	1	sensitive fine grained
16.60	3.5	0.008	0.235	11.68	2	1	sensitive fine grained
16.67	3.4	0.003	0.085	11.75	2	1	sensitive fine grained
16.73	3.3	-0.001	-0.042	11.83	0	0	<out of range>
16.80	3.2	-0.004	-0.120	11.94	0	0	<out of range>
16.86	3.2	-0.014	-0.434	12.05	0	0	<out of range>
16.93	3.2	-0.012	-0.383	12.16	0	0	<out of range>
16.99	3.2	-0.010	-0.313	12.21	0	0	<out of range>
17.06	3.2	-0.010	-0.317	12.33	0	0	<out of range>
17.13	3.3	-0.011	-0.340	12.48	0	0	<out of range>
17.19	3.2	-0.011	-0.340	12.62	0	0	<out of range>
17.26	3.2	-0.010	-0.322	12.77	0	0	<out of range>
17.32	3.3	-0.013	-0.389	12.94	0	0	<out of range>
17.39	3.4	-0.006	-0.168	13.07	0	0	<out of range>
17.45	3.4	-0.002	-0.044	13.31	2	1	sensitive fine grained
17.52	3.5	0.006	0.158	13.52	2	1	sensitive fine grained
17.59	3.8	0.012	0.325	13.80	2	1	sensitive fine grained
17.65	4.0	0.020	0.491	14.06	2	1	sensitive fine grained
17.72	4.1	0.030	0.722	14.41	2	1	sensitive fine grained
17.78	4.5	0.039	0.872	14.73	2	1	sensitive fine grained
17.85	4.7	0.067	1.422	15.17	2	1	sensitive fine grained
17.91	5.4	0.087	1.609	15.84	3	1	sensitive fine grained
17.98	6.1	0.112	1.820	16.34	3	1	sensitive fine grained
18.04	7.4	0.121	1.636	16.90	4	5	clayey silt to silty clay
18.11	8.8	0.120	1.371	17.23	4	5	clayey silt to silty clay
18.18	9.8	0.106	1.074	17.33	4	5	clayey silt to silty clay
18.24	10.3	0.132	1.286	17.69	5	5	clayey silt to silty clay
18.31	9.8	0.175	1.789	18.15	5	5	clayey silt to silty clay
18.37	10.2	0.301	2.934	18.23	6	5	clayey silt to silty clay
18.44	11.9	0.297	2.507	18.29	7	5	clayey silt to silty clay
18.50	15.9	0.372	2.339	18.45	7	5	clayey silt to silty clay
18.57	19.7	0.461	2.345	18.36	8	5	clayey silt to silty clay
18.64	21.0	0.556	2.648	18.01	9	5	clayey silt to silty clay
18.70	20.2	0.626	3.101	13.22	10	5	clayey silt to silty clay
18.77	20.4	0.656	3.211	11.84	10	5	clayey silt to silty clay
18.83	20.5	0.683	3.332	11.17	10	5	clayey silt to silty clay
18.90	21.3	0.733	3.441	10.65	10	5	clayey silt to silty clay
18.96	21.9	0.738	3.366	10.14	10	5	clayey silt to silty clay
19.03	22.6	0.751	3.325	9.80	10	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	22.7	0.765	3.374	9.67	11	5	clayey silt to silty clay
19.16	21.7	0.774	3.568	9.05	10	5	clayey silt to silty clay
19.23	21.5	0.765	3.551	8.52	10	5	clayey silt to silty clay
19.29	21.8	0.698	3.199	8.42	10	5	clayey silt to silty clay
19.36	21.0	0.651	3.093	8.31	10	5	clayey silt to silty clay
19.42	20.0	0.615	3.078	8.15	10	5	clayey silt to silty clay
19.49	19.2	0.558	2.897	8.07	9	5	clayey silt to silty clay
19.55	18.5	0.517	2.797	8.06	9	5	clayey silt to silty clay
19.62	18.0	0.517	2.869	8.19	9	5	clayey silt to silty clay
19.69	18.1	0.513	2.830	8.55	9	5	clayey silt to silty clay
19.75	17.7	0.509	2.870	9.27	8	5	clayey silt to silty clay
19.82	16.9	0.503	2.974	10.37	8	5	clayey silt to silty clay
19.88	16.9	0.480	2.840	11.47	8	5	clayey silt to silty clay
19.95	16.3	0.471	2.883	12.33	8	5	clayey silt to silty clay
20.01	15.6	0.473	3.032	12.84	7	5	clayey silt to silty clay
20.08	14.3	0.485	3.402	12.98	7	5	clayey silt to silty clay
20.14	14.0	0.500	3.564	13.32	8	5	clayey silt to silty clay
20.21	15.1	0.473	3.142	13.88	8	5	clayey silt to silty clay
20.28	16.9	0.477	2.819	14.51	8	5	clayey silt to silty clay
20.34	18.0	0.454	2.518	15.00	8	5	clayey silt to silty clay
20.41	17.9	0.479	2.683	15.40	8	5	clayey silt to silty clay
20.47	17.3	0.502	2.909	15.64	8	5	clayey silt to silty clay
20.54	16.8	0.553	3.297	15.98	8	5	clayey silt to silty clay
20.60	17.1	0.632	3.702	16.52	11	4	silty clay to clay
20.67	17.8	0.714	4.015	17.06	11	4	silty clay to clay
20.73	17.8	0.739	4.148	17.44	11	4	silty clay to clay
20.80	16.3	0.690	4.227	17.61	10	4	silty clay to clay
20.87	15.4	0.612	3.959	17.22	10	4	silty clay to clay
20.93	14.7	0.556	3.789	16.55	10	4	silty clay to clay
21.00	14.4	0.512	3.548	15.93	9	4	silty clay to clay
21.06	14.5	0.482	3.328	16.80	9	4	silty clay to clay
21.13	14.3	0.465	3.258	17.38	9	4	silty clay to clay
21.19	13.8	0.493	3.583	17.83	9	4	silty clay to clay
21.26	13.5	0.470	3.479	18.29	9	4	silty clay to clay
21.33	13.7	0.450	3.299	19.11	9	4	silty clay to clay
21.39	13.7	0.420	3.058	19.63	9	4	silty clay to clay
21.46	13.8	0.398	2.886	20.16	8	4	silty clay to clay
21.52	13.4	0.388	2.900	20.64	8	4	silty clay to clay
21.59	12.7	0.376	2.960	21.45	8	4	silty clay to clay
21.65	12.1	0.528	4.353	22.07	12	3	clay
21.72	12.0	0.591	4.929	22.70	12	3	clay
21.78	12.4	0.615	4.955	23.52	13	3	clay
21.85	12.7	0.675	5.309	24.05	13	3	clay
21.92	13.1	0.674	5.134	24.52	14	3	clay
21.98	16.8	0.571	3.398	12.03	14	3	clay
22.05	16.6	0.581	3.488	12.11	15	3	clay
22.11	15.7	0.610	3.890	12.29	10	4	silty clay to clay
22.18	15.6	0.714	4.575	13.47	11	4	silty clay to clay
22.24	16.7	0.751	4.508	14.62	12	4	silty clay to clay
22.31	20.1	0.744	3.703	16.43	12	4	silty clay to clay
22.38	22.3	0.728	3.269	17.53	13	4	silty clay to clay
22.44	22.4	0.722	3.220	17.87	10	5	clayey silt to silty clay
22.51	20.5	0.700	3.409	17.81	10	5	clayey silt to silty clay
22.57	20.5	0.678	3.310	18.67	10	5	clayey silt to silty clay
22.64	20.5	0.657	3.207	20.23	14	4	silty clay to clay
22.70	21.0	0.720	3.429	22.69	14	4	silty clay to clay
22.77	22.1	0.879	3.987	26.72	15	4	silty clay to clay
22.83	24.0	1.080	4.490	31.40	17	4	silty clay to clay
22.90	27.0	1.240	4.594	36.48	18	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	32.9	1.372	4.173	43.58	19	4	silty clay to clay
23.03	37.2	1.459	3.921	48.59	20	4	silty clay to clay
23.10	35.5	1.494	4.205	48.70	21	4	silty clay to clay
23.16	33.3	1.461	4.384	46.05	21	4	silty clay to clay
23.23	31.3	1.342	4.282	42.84	21	4	silty clay to clay
23.29	29.9	1.284	4.295	42.12	20	4	silty clay to clay
23.36	30.1	1.350	4.490	43.32	20	4	silty clay to clay
23.43	30.8	1.291	4.191	46.44	20	4	silty clay to clay
23.49	31.2	1.281	4.109	52.94	19	4	silty clay to clay
23.56	31.7	1.180	3.717	60.07	19	4	silty clay to clay
23.62	30.3	1.049	3.467	58.90	28	3	clay
23.69	28.1	1.168	4.149	58.94	29	3	clay
23.75	28.1	2.074	7.371	59.07	30	3	clay
23.82	27.6	2.288	8.283	59.79	32	3	clay
23.88	32.6	2.661	8.171	70.34	35	3	clay
23.95	41.1	2.932	7.126	90.10	39	3	clay
24.02	44.8	3.163	7.058	96.51	43	3	clay
24.08	53.8	3.341	6.211	27.15	46	3	clay
24.15	57.4	3.128	5.452	25.50	48	3	clay
24.21	53.8	3.002	5.582	26.35	50	3	clay
24.28	52.4	2.772	5.293	29.89	51	3	clay
24.34	50.7	2.544	5.019	33.92	50	3	clay
24.41	51.2	2.417	4.721	39.23	32	4	silty clay to clay
24.48	51.8	2.504	4.834	43.20	31	4	silty clay to clay
24.54	49.7	2.351	4.731	45.62	29	4	silty clay to clay
24.61	45.1	2.089	4.632	45.82	28	4	silty clay to clay
24.67	39.2	1.733	4.424	44.53	26	4	silty clay to clay
24.74	35.4	1.556	4.396	43.54	24	4	silty clay to clay
24.80	31.8	1.288	4.053	44.24	21	4	silty clay to clay
24.87	29.9	1.144	3.830	45.66	20	4	silty clay to clay
24.93	27.9	1.057	3.786	46.72	18	4	silty clay to clay
25.00	26.3	1.121	4.272	48.26	18	4	silty clay to clay
25.07	25.6	1.155	4.515	49.89	17	4	silty clay to clay
25.13	25.1	1.085	4.324	53.07	17	4	silty clay to clay
25.20	26.2	1.172	4.470	61.14	25	3	clay
25.26	26.2	1.280	4.885	53.48	26	3	clay
25.33	27.7	1.359	4.900	52.20	28	3	clay
25.39	28.8	1.570	5.446	52.97	30	3	clay
25.46	32.1	1.614	5.023	52.45	32	3	clay
25.52	35.4	1.760	4.971	49.50	23	4	silty clay to clay
25.59	39.2	1.873	4.776	44.77	24	4	silty clay to clay
25.66	40.9	1.720	4.204	39.43	26	4	silty clay to clay
25.72	43.1	1.718	3.986	37.84	21	5	clayey silt to silty clay
25.79	44.4	1.888	4.257	35.79	23	5	clayey silt to silty clay
25.85	50.1	1.953	3.894	37.61	23	5	clayey silt to silty clay
25.92	58.7	1.854	3.160	36.31	20	6	sandy silt to clayey silt
25.98	55.1	1.567	2.841	31.10	21	6	sandy silt to clayey silt
26.05	49.1	1.318	2.682	28.03	24	6	sandy silt to clayey silt
26.12	58.8	1.169	1.988	25.63	22	7	silty sand to sandy silt
26.18	72.6	1.020	1.405	19.78	23	7	silty sand to sandy silt
26.25	85.6	0.986	1.152	18.31	25	7	silty sand to sandy silt
26.31	92.3	0.926	1.004	14.93	20	8	sand to silty sand
26.38	93.5	0.881	0.943	9.62	21	8	sand to silty sand
26.44	94.4	0.806	0.854	7.18	22	8	sand to silty sand
26.51	92.6	0.780	0.842	5.57	22	8	sand to silty sand
26.57	91.0	0.726	0.798	4.79	21	8	sand to silty sand
26.64	89.3	0.765	0.857	4.79	21	8	sand to silty sand
26.71	86.8	0.849	0.979	4.84	20	8	sand to silty sand
26.77	81.3	0.960	1.182	4.89	25	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	76.3	1.113	1.458	4.93	24	7	silty sand to sandy silt
26.90	69.4	1.245	1.793	5.07	22	7	silty sand to sandy silt
26.97	58.9	1.352	2.297	5.27	20	7	silty sand to sandy silt
27.03	55.0	1.184	2.155	5.54	19	7	silty sand to sandy silt
27.10	53.2	1.167	2.193	5.59	20	7	silty sand to sandy silt
27.17	50.1	1.262	2.520	6.05	23	7	silty sand to sandy silt
27.23	61.7	1.324	2.147	6.46	26	7	silty sand to sandy silt
27.30	98.3	1.273	1.294	6.60	22	8	sand to silty sand
27.36	117.1	0.995	0.850	6.46	24	8	sand to silty sand
27.43	127.5	0.931	0.730	6.40	26	8	sand to silty sand
27.49	130.4	1.034	0.793	6.29	28	8	sand to silty sand
27.56	122.3	1.144	0.935	6.15	28	8	sand to silty sand
27.62	113.7	1.064	0.935	6.00	28	8	sand to silty sand
27.69	107.0	0.928	0.867	5.91	27	8	sand to silty sand
27.76	102.6	0.820	0.799	5.93	26	8	sand to silty sand
27.82	106.1	0.787	0.742	6.01	26	8	sand to silty sand
27.89	108.6	1.043	0.960	6.02	25	8	sand to silty sand
27.95	109.5	1.285	1.174	5.94	25	8	sand to silty sand
28.02	107.2	1.501	1.400	5.95	26	8	sand to silty sand
28.08	104.6	1.752	1.675	5.95	26	8	sand to silty sand
28.15	106.1	1.695	1.598	6.04	27	8	sand to silty sand
28.22	112.9	1.774	1.571	6.24	28	8	sand to silty sand
28.28	119.6	1.819	1.521	6.53	29	8	sand to silty sand
28.35	126.7	1.893	1.494	6.87	30	8	sand to silty sand
28.41	134.3	2.121	1.579	11.91	32	8	sand to silty sand
28.48	141.7	2.270	1.602	11.51	33	8	sand to silty sand
28.54	145.9	2.366	1.622	11.37	34	8	sand to silty sand
28.61	149.1	2.428	1.628	11.29	35	8	sand to silty sand
28.67	150.5	2.507	1.666	11.28	37	8	sand to silty sand
28.74	154.4	2.522	1.633	11.34	38	8	sand to silty sand
28.81	161.0	2.624	1.630	11.49	39	8	sand to silty sand
28.87	166.9	2.853	1.709	11.61	39	8	sand to silty sand
28.94	172.1	2.985	1.734	11.69	53	7	silty sand to sandy silt
29.00	172.4	3.184	1.847	11.77	55	7	silty sand to sandy silt
29.07	170.2	3.660	2.150	11.94	56	7	silty sand to sandy silt
29.13	171.1	4.003	2.339	12.20	0	0	<out of range>
29.20	185.1	4.061	2.194	13.35	0	0	<out of range>
29.27	195.8	3.152	1.610	14.32	45	9	sand
29.33	221.9	-32768	-32768	16.50	0	0	<out of range>
29.40	256.8	-32768	-32768	20.06	0	0	<out of range>
29.46	238.3	-32768	-32768	20.68	0	0	<out of range>
29.53	274.5	-32768	-32768	21.09	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

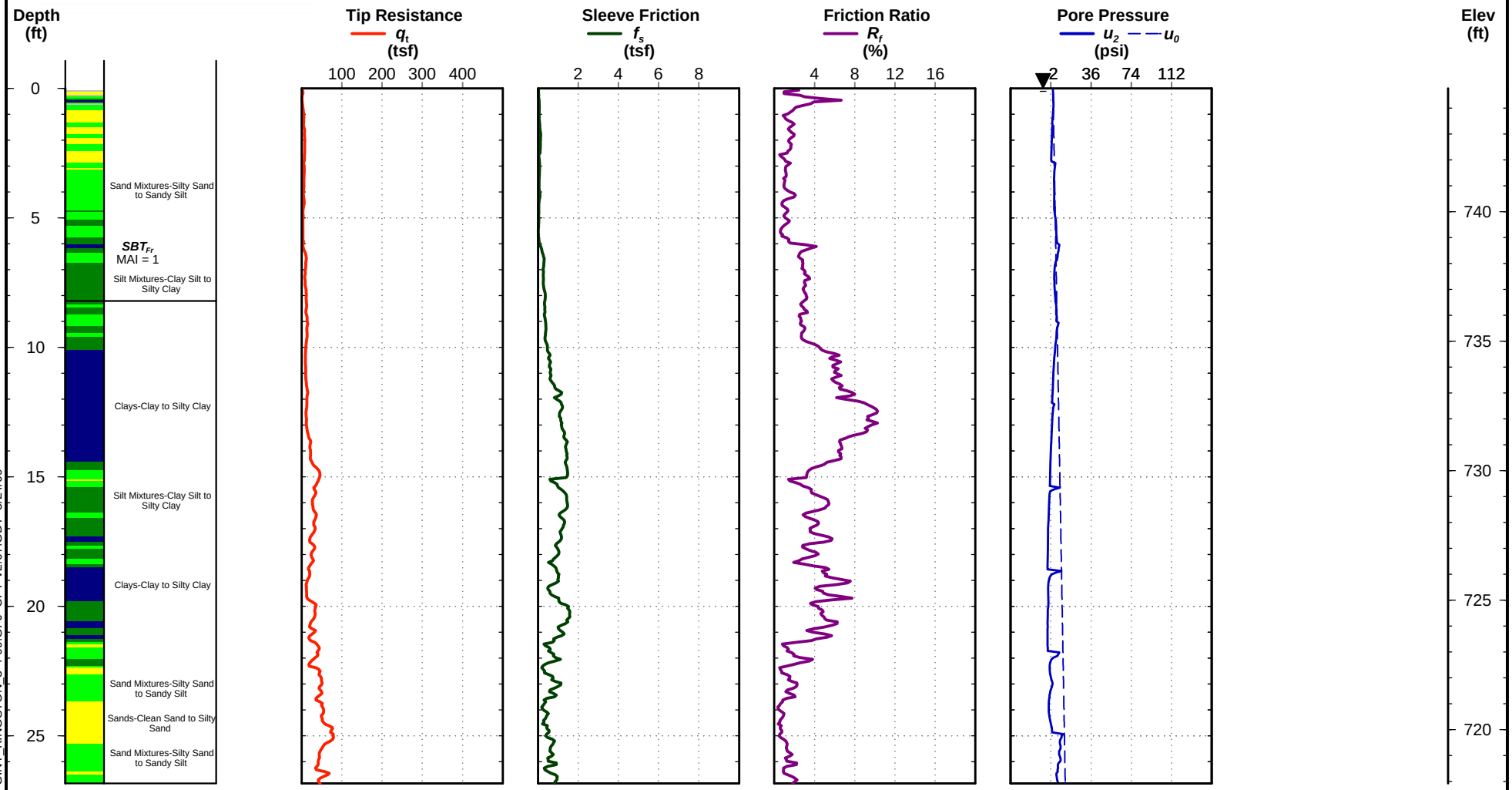
09-208-C1

Project No: 60095742

Date: Jan. 20, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557507.75
Easting: 2441467.55
Elevation: 744.76 NGVD

Total Depth: 26.8 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

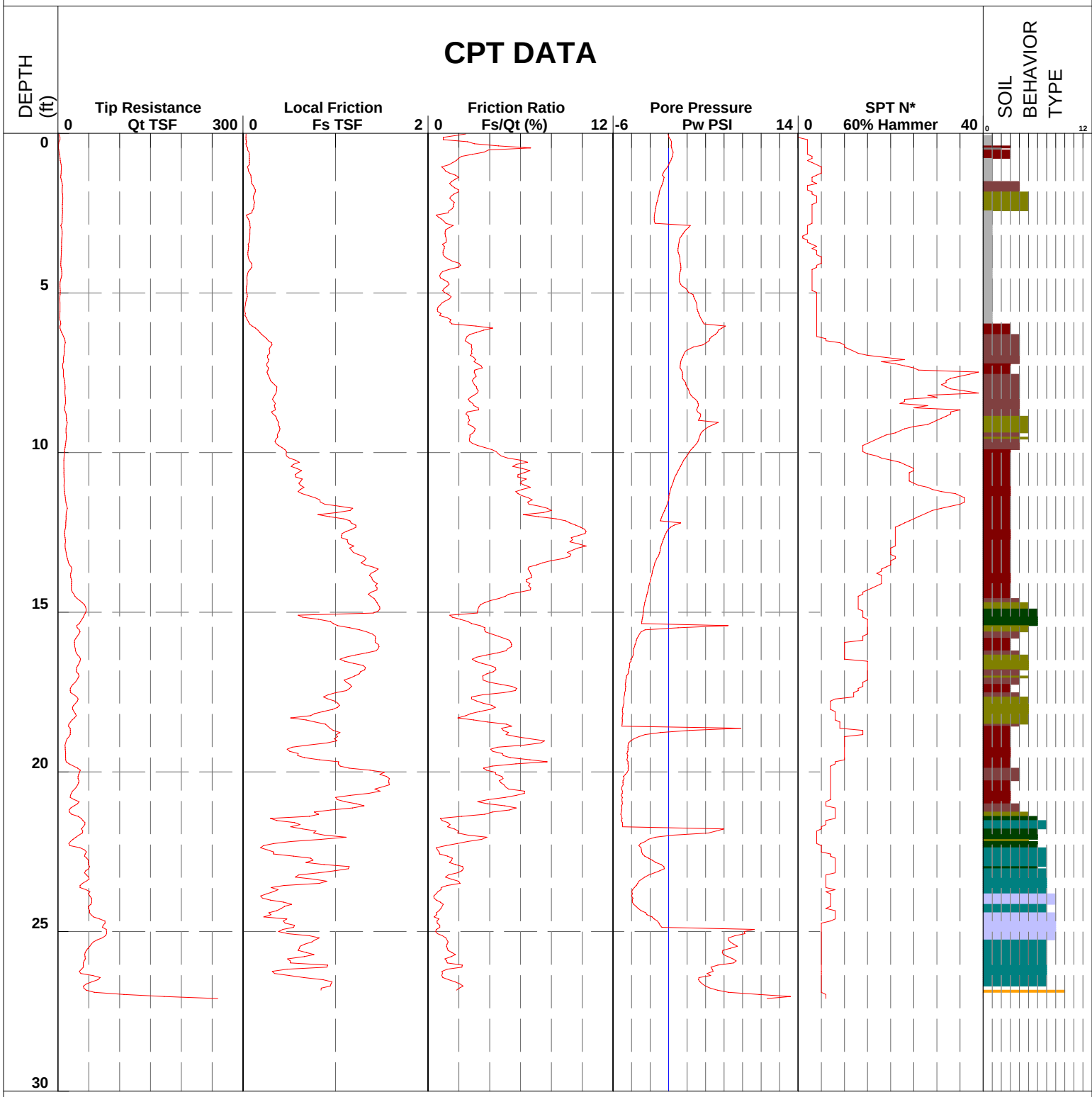
09-208-C1

Electronic Filename: 09-208-C1.cpt

AECOM

09-208-C1	60095742	1/20/2009 1:20:59 PM
DTA1081	TVA-Kingston	CAP CME-750
557,507.75N	2,441,467.55E	Elev. 744.76 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Data File:09-208-C1 1/20/2009 1:20:59 PM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	1.38	0.0337	2.437	-0.065	1	1	sensitive fine grained
0.13	3.24	0.0319	0.985	0.047	1	1	sensitive fine grained
0.20	3.21	0.0314	0.978	0.215	1	1	sensitive fine grained
0.26	1.53	0.0391	2.563	0.305	1	1	sensitive fine grained
0.33	1.06	0.0318	3.005	0.299	1	1	sensitive fine grained
0.39	0.78	0.0356	4.566	0.280	1	3	clay
0.46	0.74	0.0494	6.653	0.339	1	2	organic material
0.52	1.25	0.0490	3.917	0.386	2	3	clay
0.59	1.79	0.0650	3.639	0.488	2	3	clay
0.66	2.36	0.0681	2.881	0.457	2	3	clay
0.72	3.10	0.0675	2.180	0.426	3	3	clay
0.79	3.55	0.0699	1.967	0.317	2	1	sensitive fine grained
0.85	3.73	0.0682	1.826	0.252	2	1	sensitive fine grained
0.92	4.38	0.0702	1.603	0.118	2	1	sensitive fine grained
0.98	5.03	0.0684	1.360	0.016	2	1	sensitive fine grained
1.05	5.46	0.0476	0.872	-0.109	2	1	sensitive fine grained
1.12	5.48	0.0570	1.040	-0.274	2	1	sensitive fine grained
1.18	5.21	0.0588	1.129	-0.464	2	1	sensitive fine grained
1.25	5.15	0.0722	1.400	-0.588	2	1	sensitive fine grained
1.31	4.75	0.0845	1.779	-0.666	2	1	sensitive fine grained
1.38	4.41	0.0871	1.974	-0.485	3	1	sensitive fine grained
1.44	5.08	0.0889	1.749	-0.535	3	1	sensitive fine grained
1.51	5.91	0.0907	1.535	-0.582	4	4	silty clay to clay
1.57	6.79	0.0947	1.395	-0.660	4	4	silty clay to clay
1.64	7.32	0.1121	1.532	-0.747	4	4	silty clay to clay
1.71	7.09	0.1229	1.734	-0.840	4	4	silty clay to clay
1.77	6.76	0.1342	1.984	-0.933	5	4	silty clay to clay
1.84	6.80	0.1329	1.955	-1.008	3	5	clayey silt to silty clay
1.90	7.29	0.1228	1.685	-1.030	3	5	clayey silt to silty clay
1.97	7.66	0.1145	1.495	-1.104	4	5	clayey silt to silty clay
2.03	7.88	0.1107	1.405	-1.148	4	5	clayey silt to silty clay
2.10	7.65	0.1179	1.542	-1.179	4	5	clayey silt to silty clay
2.17	7.44	0.1267	1.703	-1.276	4	5	clayey silt to silty clay
2.23	7.22	0.1181	1.635	-1.316	4	5	clayey silt to silty clay
2.30	7.19	0.1183	1.645	-1.369	4	5	clayey silt to silty clay
2.36	7.25	0.1141	1.574	-1.409	3	5	clayey silt to silty clay
2.43	7.42	0.1003	1.351	-1.447	3	1	sensitive fine grained
2.49	7.50	0.0971	1.295	-1.487	3	1	sensitive fine grained
2.56	7.06	0.0369	0.523	-1.524	3	1	sensitive fine grained
2.62	6.90	0.0464	0.673	-1.546	3	1	sensitive fine grained
2.69	6.71	0.0590	0.880	-1.546	3	1	sensitive fine grained
2.76	6.68	0.0691	1.036	-1.534	3	1	sensitive fine grained
2.82	6.43	0.0740	1.152	-1.468	3	1	sensitive fine grained
2.89	4.63	0.0751	1.625	2.337	3	1	sensitive fine grained
2.95	5.65	0.0784	1.387	2.153	3	1	sensitive fine grained
3.02	6.46	0.0742	1.149	1.895	3	1	sensitive fine grained
3.08	6.79	0.0755	1.112	1.705	3	1	sensitive fine grained
3.15	6.72	0.0740	1.103	1.552	3	1	sensitive fine grained
3.22	6.52	0.0737	1.130	1.391	3	1	sensitive fine grained
3.28	6.30	0.0735	1.167	1.232	3	1	sensitive fine grained
3.35	5.91	0.0698	1.180	1.157	3	1	sensitive fine grained
3.41	5.75	0.0675	1.174	1.123	3	1	sensitive fine grained
3.48	5.87	0.0546	0.930	1.086	3	1	sensitive fine grained
3.54	5.82	0.0616	1.058	1.058	3	1	sensitive fine grained
3.61	5.68	0.0594	1.045	1.020	3	1	sensitive fine grained
3.67	5.60	0.0546	0.976	1.008	3	1	sensitive fine grained
3.74	5.49	0.0530	0.966	1.045	3	1	sensitive fine grained
3.81	5.41	0.0527	0.973	1.129	3	1	sensitive fine grained

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.87	5.22	0.0566	1.084	1.201	2	1	sensitive fine grained
3.94	4.92	0.0635	1.293	1.232	2	1	sensitive fine grained
4.00	4.68	0.0735	1.570	1.232	2	1	sensitive fine grained
4.07	4.56	0.0918	2.013	1.272	2	1	sensitive fine grained
4.13	4.59	0.0967	2.106	1.322	2	1	sensitive fine grained
4.20	4.94	0.0951	1.926	1.328	3	1	sensitive fine grained
4.27	5.70	0.0771	1.353	1.325	3	1	sensitive fine grained
4.33	6.13	0.0579	0.944	1.260	3	1	sensitive fine grained
4.40	6.26	0.0508	0.812	1.198	3	1	sensitive fine grained
4.46	6.03	0.0455	0.754	1.157	3	1	sensitive fine grained
4.53	5.27	0.0421	0.798	1.151	2	1	sensitive fine grained
4.59	4.32	0.0450	1.044	1.151	2	1	sensitive fine grained
4.66	3.53	0.0450	1.277	1.201	2	1	sensitive fine grained
4.72	3.22	0.0440	1.365	1.304	2	1	sensitive fine grained
4.79	3.22	0.0397	1.233	1.475	2	1	sensitive fine grained
4.86	3.46	0.0362	1.046	1.848	2	1	sensitive fine grained
4.92	3.66	0.0349	0.952	2.022	2	1	sensitive fine grained
4.99	3.73	0.0397	1.066	2.162	2	1	sensitive fine grained
5.05	3.47	0.0458	1.320	2.632	2	1	sensitive fine grained
5.12	3.13	0.0469	1.498	2.710	2	1	sensitive fine grained
5.18	2.87	0.0399	1.388	2.809	2	1	sensitive fine grained
5.25	2.99	0.0337	1.126	2.928	2	1	sensitive fine grained
5.31	3.17	0.0284	0.897	3.002	2	1	sensitive fine grained
5.38	3.28	0.0257	0.785	3.055	2	1	sensitive fine grained
5.45	3.38	0.0217	0.643	3.065	2	1	sensitive fine grained
5.51	3.36	0.0203	0.603	3.093	2	1	sensitive fine grained
5.58	3.25	0.0200	0.615	3.164	2	1	sensitive fine grained
5.64	3.10	0.0258	0.833	3.264	2	1	sensitive fine grained
5.71	3.02	0.0226	0.750	3.329	2	1	sensitive fine grained
5.77	2.93	0.0363	1.238	3.444	2	1	sensitive fine grained
5.84	3.13	0.0461	1.475	3.562	2	1	sensitive fine grained
5.91	4.26	0.0597	1.403	3.709	2	1	sensitive fine grained
5.97	4.58	0.0708	1.546	3.830	4	3	clay
6.04	3.17	0.0987	3.113	6.126	4	3	clay
6.10	3.22	0.1351	4.193	5.762	5	3	clay
6.17	4.45	0.1606	3.612	5.379	5	3	clay
6.23	5.83	0.1830	3.139	5.277	6	3	clay
6.30	7.45	0.2018	2.710	5.059	5	4	silty clay to clay
6.36	9.09	0.2299	2.530	4.692	6	4	silty clay to clay
6.43	10.41	0.2567	2.466	4.452	6	4	silty clay to clay
6.50	11.39	0.2736	2.402	4.396	7	4	silty clay to clay
6.56	11.91	0.3083	2.589	4.073	7	4	silty clay to clay
6.63	11.11	0.3147	2.833	3.718	7	4	silty clay to clay
6.69	10.50	0.2945	2.805	2.679	7	4	silty clay to clay
6.76	9.92	0.2832	2.857	2.215	7	4	silty clay to clay
6.82	10.25	0.2884	2.813	1.832	6	4	silty clay to clay
6.89	10.16	0.2886	2.841	1.696	6	4	silty clay to clay
6.96	9.73	0.2671	2.744	1.599	6	4	silty clay to clay
7.02	8.91	0.2643	2.965	1.493	6	4	silty clay to clay
7.09	8.95	0.2765	3.091	1.372	6	4	silty clay to clay
7.15	9.17	0.2738	2.988	1.310	5	4	silty clay to clay
7.22	8.02	0.2573	3.207	1.279	8	3	clay
7.28	7.52	0.2593	3.447	1.254	8	3	clay
7.35	7.84	0.2753	3.513	1.241	8	3	clay
7.41	8.89	0.2694	3.030	1.372	8	3	clay
7.48	8.72	0.2605	2.988	1.487	8	3	clay
7.55	8.79	0.2684	3.054	1.515	6	4	silty clay to clay
7.61	8.95	0.2796	3.125	1.509	6	4	silty clay to clay
7.68	9.74	0.2886	2.964	1.493	6	4	silty clay to clay
7.74	10.38	0.2971	2.863	1.664	7	4	silty clay to clay
7.81	10.86	0.3185	2.933	1.842	7	4	silty clay to clay
7.87	11.38	0.3423	3.008	1.876	7	4	silty clay to clay
7.94	11.70	0.3669	3.135	1.976	7	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
8.01	11.51	0.3648	3.169	2.119	7	4	silty clay to clay
8.07	11.13	0.3621	3.252	2.212	7	4	silty clay to clay
8.14	11.15	0.3558	3.192	2.271	7	4	silty clay to clay
8.20	11.54	0.3435	2.978	2.411	7	4	silty clay to clay
8.27	11.96	0.3284	2.746	2.623	8	4	silty clay to clay
8.33	12.24	0.3190	2.607	2.900	8	4	silty clay to clay
8.40	12.32	0.3347	2.716	3.121	7	4	silty clay to clay
8.46	12.10	0.3515	2.906	3.189	7	4	silty clay to clay
8.53	11.41	0.3392	2.973	3.226	7	4	silty clay to clay
8.60	10.62	0.3457	3.255	3.114	8	4	silty clay to clay
8.66	10.70	0.3516	3.287	3.024	8	4	silty clay to clay
8.73	12.04	0.3073	2.551	3.139	8	4	silty clay to clay
8.79	13.20	0.3242	2.456	3.460	8	4	silty clay to clay
8.86	13.51	0.3542	2.621	3.466	6	5	clayey silt to silty clay
8.92	13.77	0.3620	2.629	3.351	7	5	clayey silt to silty clay
8.99	13.74	0.3709	2.699	3.233	7	5	clayey silt to silty clay
9.06	14.99	0.3882	2.589	5.361	7	5	clayey silt to silty clay
9.12	14.52	0.3787	2.608	4.885	7	5	clayey silt to silty clay
9.19	13.50	0.3916	2.901	4.362	7	5	clayey silt to silty clay
9.25	13.08	0.3995	3.055	3.998	7	5	clayey silt to silty clay
9.32	13.05	0.3935	3.015	3.718	6	5	clayey silt to silty clay
9.38	13.06	0.3799	2.909	3.503	9	4	silty clay to clay
9.45	13.67	0.3711	2.714	3.413	8	4	silty clay to clay
9.51	13.82	0.3762	2.723	3.335	6	5	clayey silt to silty clay
9.58	13.35	0.3575	2.679	3.261	8	4	silty clay to clay
9.65	12.86	0.3465	2.696	3.180	8	4	silty clay to clay
9.71	12.42	0.3575	2.878	3.049	8	4	silty clay to clay
9.78	11.95	0.3843	3.217	2.844	8	4	silty clay to clay
9.84	11.45	0.4204	3.672	2.648	7	4	silty clay to clay
9.91	10.92	0.4525	4.144	2.433	11	3	clay
9.97	10.63	0.4704	4.426	2.256	10	3	clay
10.04	10.22	0.4660	4.558	2.134	10	3	clay
10.10	9.90	0.4703	4.750	1.960	10	3	clay
10.17	9.71	0.5012	5.162	1.798	9	3	clay
10.24	9.49	0.5658	5.965	1.640	9	3	clay
10.30	9.44	0.6089	6.448	1.524	9	3	clay
10.37	9.52	0.5446	5.718	1.406	9	3	clay
10.43	9.46	0.5204	5.499	1.282	9	3	clay
10.50	9.54	0.5829	6.108	1.170	9	3	clay
10.56	9.58	0.6328	6.605	1.030	9	3	clay
10.63	9.54	0.5943	6.232	0.927	9	3	clay
10.70	9.66	0.5631	5.827	0.806	9	3	clay
10.76	9.82	0.5716	5.823	0.672	9	3	clay
10.83	10.06	0.6406	6.365	0.591	9	3	clay
10.89	10.26	0.6258	6.099	0.538	10	3	clay
10.96	10.12	0.6044	5.975	0.460	10	3	clay
11.02	9.88	0.6197	6.272	0.373	10	3	clay
11.09	9.92	0.6595	6.648	0.271	10	3	clay
11.15	10.15	0.6200	6.106	0.212	10	3	clay
11.22	10.47	0.5950	5.685	0.143	10	3	clay
11.29	10.95	0.6388	5.836	0.106	11	3	clay
11.35	11.65	0.7093	6.089	0.034	11	3	clay
11.42	11.99	0.7811	6.517	0.025	11	3	clay
11.48	12.31	0.8309	6.752	0.006	12	3	clay
11.55	12.94	0.8360	6.461	-0.075	13	3	clay
11.61	13.51	0.8830	6.534	-0.159	13	3	clay
11.68	14.44	1.0436	7.225	-0.230	13	3	clay
11.75	15.34	1.1867	7.735	-0.339	13	3	clay
11.81	14.45	1.1572	8.009	-0.423	13	3	clay
11.88	13.54	1.0125	7.480	-0.541	13	3	clay
11.94	13.12	0.8108	6.178	-0.638	13	3	clay
12.01	13.04	0.9321	7.150	-0.734	13	3	clay
12.07	13.11	1.0895	8.312	-0.812	12	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
12.14	12.94	1.1565	8.935	-0.893	12	3	clay
12.20	12.70	1.1679	9.195	1.310	12	3	clay
12.27	12.73	1.2188	9.578	0.591	12	3	clay
12.34	12.34	1.2206	9.890	0.208	11	3	clay
12.40	11.59	1.1766	10.156	-0.028	11	3	clay
12.47	10.89	1.1162	10.252	-0.187	11	3	clay
12.53	10.52	1.0718	10.191	-0.289	11	3	clay
12.60	10.92	1.0661	9.764	-0.414	11	3	clay
12.66	11.43	1.0612	9.283	-0.492	11	3	clay
12.73	12.03	1.1271	9.371	-0.582	11	3	clay
12.80	12.28	1.1298	9.198	-0.647	11	3	clay
12.86	11.71	1.1416	9.749	-0.737	11	3	clay
12.93	11.69	1.1993	10.257	-0.809	12	3	clay
12.99	11.85	1.1505	9.710	-0.884	12	3	clay
13.06	12.56	1.1756	9.358	-0.905	12	3	clay
13.12	13.19	1.1916	9.035	-0.964	13	3	clay
13.19	13.40	1.2420	9.269	-1.039	13	3	clay
13.25	14.22	1.3060	9.183	-1.120	14	3	clay
13.32	15.24	1.3314	8.738	-1.297	15	3	clay
13.39	16.46	1.3095	7.958	-1.366	16	3	clay
13.45	17.17	1.2761	7.434	-1.487	17	3	clay
13.52	18.71	1.3194	7.053	-1.528	18	3	clay
13.58	21.49	1.4046	6.538	-1.599	19	3	clay
13.65	22.53	1.4610	6.486	-1.668	20	3	clay
13.71	21.73	1.4311	6.585	-1.733	20	3	clay
13.78	20.83	1.3837	6.642	-1.786	20	3	clay
13.85	20.37	1.3661	6.705	-1.826	21	3	clay
13.91	20.70	1.3921	6.725	-1.904	20	3	clay
13.98	21.89	1.3961	6.377	-1.954	20	3	clay
14.04	22.16	1.4166	6.393	-1.988	21	3	clay
14.11	21.96	1.4503	6.605	-2.069	21	3	clay
14.17	21.95	1.4312	6.520	-2.134	21	3	clay
14.24	21.75	1.4494	6.663	-2.162	22	3	clay
14.30	21.83	1.4474	6.629	-2.218	22	3	clay
14.37	23.27	1.3870	5.962	-2.268	24	3	clay
14.44	25.91	1.3540	5.225	-2.340	26	3	clay
14.50	27.59	1.3824	5.010	-2.386	28	3	clay
14.57	30.75	1.4163	4.606	-2.442	21	4	silty clay to clay
14.63	35.45	1.4338	4.045	-2.505	22	4	silty clay to clay
14.70	39.39	1.4492	3.679	-2.579	18	5	clayey silt to silty clay
14.76	42.87	1.4585	3.402	-2.601	19	5	clayey silt to silty clay
14.83	44.72	1.4776	3.304	-2.660	20	5	clayey silt to silty clay
14.90	45.61	1.4790	3.243	-2.694	17	6	sandy silt to clayey silt
14.96	45.45	1.4623	3.218	-2.716	17	6	sandy silt to clayey silt
15.03	44.26	1.4081	3.182	-2.757	17	6	sandy silt to clayey silt
15.09	42.42	0.5968	1.407	-2.775	16	6	sandy silt to clayey silt
15.16	40.95	0.6447	1.574	-2.803	15	6	sandy silt to clayey silt
15.22	38.98	0.8149	2.091	-2.865	15	6	sandy silt to clayey silt
15.29	36.58	0.9468	2.588	-2.887	14	6	sandy silt to clayey silt
15.35	34.43	0.9755	2.833	-2.928	14	6	sandy silt to clayey silt
15.42	30.31	1.0233	3.377	6.422	17	5	clayey silt to silty clay
15.49	31.33	1.1561	3.691	1.030	16	5	clayey silt to silty clay
15.55	34.41	1.2603	3.663	-2.554	16	5	clayey silt to silty clay
15.62	35.91	1.3362	3.721	-2.968	21	4	silty clay to clay
15.68	33.88	1.3972	4.123	-3.142	20	4	silty clay to clay
15.75	31.44	1.4294	4.547	-3.264	20	4	silty clay to clay
15.81	29.13	1.4323	4.918	-3.404	29	3	clay
15.88	27.03	1.4269	5.279	-3.485	28	3	clay
15.94	26.66	1.4308	5.367	-3.531	27	3	clay
16.01	26.98	1.4624	5.420	-3.625	26	3	clay
16.08	27.18	1.4701	5.410	-3.671	27	3	clay
16.14	28.25	1.4600	5.168	-3.786	27	3	clay
16.21	28.47	1.4382	5.052	-3.839	19	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
16.27	29.63	1.3372	4.514	-3.824	20	4	silty clay to clay
16.34	32.05	1.2162	3.795	-3.817	15	5	clayey silt to silty clay
16.40	35.18	1.1114	3.159	-3.917	16	5	clayey silt to silty clay
16.47	36.59	1.0486	2.866	-4.088	16	5	clayey silt to silty clay
16.54	35.68	1.0970	3.075	-4.063	16	5	clayey silt to silty clay
16.60	34.17	1.1958	3.500	-4.231	16	5	clayey silt to silty clay
16.67	32.35	1.2968	4.008	-4.194	16	5	clayey silt to silty clay
16.73	30.37	1.3229	4.355	-4.237	15	5	clayey silt to silty clay
16.80	29.89	1.3160	4.403	-4.328	20	4	silty clay to clay
16.86	30.00	1.2687	4.229	-4.328	20	4	silty clay to clay
16.93	32.91	1.2576	3.821	-4.390	20	4	silty clay to clay
16.99	34.09	1.2072	3.541	-4.552	15	5	clayey silt to silty clay
17.06	32.48	1.1577	3.564	-4.570	19	4	silty clay to clay
17.13	30.64	1.0930	3.567	-4.617	19	4	silty clay to clay
17.19	28.14	1.1156	3.965	-4.633	17	4	silty clay to clay
17.26	24.49	1.1557	4.719	-4.698	24	3	clay
17.32	21.55	1.1728	5.443	-4.636	23	3	clay
17.39	20.05	1.1521	5.746	-4.661	22	3	clay
17.45	19.75	1.1176	5.659	-4.661	22	3	clay
17.52	20.47	1.0038	4.904	-4.741	16	4	silty clay to clay
17.59	25.99	0.9211	3.544	-4.745	16	4	silty clay to clay
17.65	30.71	0.8683	2.827	-4.822	13	5	clayey silt to silty clay
17.72	32.63	0.9199	2.820	-4.832	13	5	clayey silt to silty clay
17.78	31.33	0.9899	3.159	-4.829	14	5	clayey silt to silty clay
17.85	28.70	1.0251	3.572	-4.829	13	5	clayey silt to silty clay
17.91	25.22	1.0420	4.131	-4.897	13	5	clayey silt to silty clay
17.98	23.40	1.0220	4.368	-4.941	13	5	clayey silt to silty clay
18.04	24.01	0.9665	4.026	-4.987	13	5	clayey silt to silty clay
18.11	25.92	0.8652	3.338	-4.987	13	5	clayey silt to silty clay
18.18	28.00	0.7751	2.768	-4.937	12	5	clayey silt to silty clay
18.24	29.76	0.7312	2.457	-4.969	12	5	clayey silt to silty clay
18.31	26.66	0.5147	1.931	-5.015	12	5	clayey silt to silty clay
18.37	23.01	0.6827	2.966	-5.000	11	5	clayey silt to silty clay
18.44	20.18	0.7788	3.860	-5.009	11	5	clayey silt to silty clay
18.50	17.55	0.8911	5.078	-5.025	13	4	silty clay to clay
18.57	16.90	0.9170	5.426	-5.046	19	3	clay
18.64	19.72	0.9402	4.768	7.822	18	3	clay
18.70	20.01	0.9765	4.879	2.277	18	3	clay
18.77	20.14	1.0481	5.204	-0.899	18	3	clay
18.83	19.94	1.0081	5.057	-2.539	17	3	clay
18.90	17.88	1.0212	5.711	-3.205	16	3	clay
18.96	14.88	0.9870	6.633	-3.743	15	3	clay
19.03	13.43	1.0156	7.560	-4.088	14	3	clay
19.09	12.38	0.9034	7.298	-4.340	13	3	clay
19.16	11.31	0.7014	6.199	-4.384	12	3	clay
19.23	11.81	0.5320	4.506	-4.393	12	3	clay
19.29	11.78	0.4770	4.051	-4.374	11	3	clay
19.36	12.06	0.5069	4.202	-4.409	11	3	clay
19.42	12.39	0.5975	4.823	-4.499	12	3	clay
19.49	12.13	0.5912	4.874	-4.412	12	3	clay
19.55	12.40	0.6614	5.334	-4.443	13	3	clay
19.62	12.49	0.8256	6.609	-4.505	15	3	clay
19.69	13.38	1.0343	7.728	-4.384	17	3	clay
19.75	18.06	1.0294	5.699	-4.393	20	3	clay
19.82	25.36	1.0510	4.144	-4.349	24	3	clay
19.88	31.95	1.1470	3.590	-4.377	18	4	silty clay to clay
19.95	36.19	1.3717	3.790	-4.353	19	4	silty clay to clay
20.01	34.95	1.5271	4.369	-4.480	21	4	silty clay to clay
20.08	33.56	1.4795	4.409	-4.664	21	4	silty clay to clay
20.14	32.44	1.5507	4.780	-4.878	22	4	silty clay to clay
20.21	32.51	1.5816	4.865	-4.801	21	4	silty clay to clay
20.28	34.06	1.5740	4.621	-4.934	31	3	clay
20.34	33.35	1.5770	4.728	-4.941	30	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
20.41	32.08	1.5818	4.930	-4.909	29	3	clay
20.47	29.94	1.5037	5.023	-5.062	28	3	clay
20.54	27.31	1.4255	5.220	-5.081	26	3	clay
20.60	23.65	1.4818	6.265	-4.981	24	3	clay
20.67	21.79	1.3612	6.248	-5.006	23	3	clay
20.73	20.27	1.1592	5.719	-5.133	24	3	clay
20.80	19.99	0.9995	5.000	-4.987	24	3	clay
20.87	26.01	1.0185	3.916	-5.056	25	3	clay
20.93	34.30	1.1032	3.216	-5.018	25	3	clay
21.00	31.78	1.2252	3.855	-4.981	16	4	silty clay to clay
21.06	26.28	1.3089	4.981	-5.087	16	4	silty clay to clay
21.13	20.74	1.1842	5.710	-5.040	16	4	silty clay to clay
21.19	17.99	0.9491	5.277	-5.093	16	4	silty clay to clay
21.26	18.48	0.7711	4.172	-5.121	12	5	clayey silt to silty clay
21.33	22.23	0.8175	3.678	-5.168	13	5	clayey silt to silty clay
21.39	32.80	0.7178	2.189	-5.090	12	6	sandy silt to clayey silt
21.46	37.77	0.2975	0.788	-5.025	13	6	sandy silt to clayey silt
21.52	40.52	0.3669	0.906	-5.115	12	7	silty sand to sandy silt
21.59	43.72	0.5573	1.275	-5.003	13	7	silty sand to sandy silt
21.65	43.50	0.6182	1.421	-4.969	13	7	silty sand to sandy silt
21.72	40.71	0.5143	1.263	-4.978	13	7	silty sand to sandy silt
21.78	38.05	0.6450	1.695	5.989	15	6	sandy silt to clayey silt
21.85	40.26	0.7896	1.961	5.165	15	6	sandy silt to clayey silt
21.92	39.52	0.7606	1.924	4.293	13	6	sandy silt to clayey silt
21.98	33.86	0.8808	2.601	0.460	12	6	sandy silt to clayey silt
22.05	29.16	1.1141	3.821	-1.422	11	6	sandy silt to clayey silt
22.11	24.28	0.8433	3.474	-2.206	13	5	clayey silt to silty clay
22.18	20.19	0.5188	2.570	-2.514	10	6	sandy silt to clayey silt
22.24	17.64	0.3331	1.888	-3.024	10	6	sandy silt to clayey silt
22.31	19.11	0.2216	1.160	-3.226	11	6	sandy silt to clayey silt
22.38	35.86	0.1894	0.528	-2.968	10	7	silty sand to sandy silt
22.44	43.24	0.2651	0.613	-2.937	11	7	silty sand to sandy silt
22.51	46.07	0.3307	0.718	-2.912	13	7	silty sand to sandy silt
22.57	44.18	0.3294	0.746	-2.813	14	7	silty sand to sandy silt
22.64	43.12	0.5455	1.265	-2.576	15	7	silty sand to sandy silt
22.70	46.78	0.7334	1.568	-2.159	15	7	silty sand to sandy silt
22.77	49.43	0.7577	1.533	-1.764	15	7	silty sand to sandy silt
22.83	49.40	0.6801	1.377	-1.375	15	7	silty sand to sandy silt
22.90	49.47	0.8750	1.769	-0.800	16	7	silty sand to sandy silt
22.97	51.27	1.1487	2.241	-0.510	18	6	sandy silt to clayey silt
23.03	49.85	1.1384	2.284	-0.460	15	7	silty sand to sandy silt
23.10	45.09	0.9923	2.201	-0.955	15	7	silty sand to sandy silt
23.16	43.07	0.8187	1.901	-1.531	15	7	silty sand to sandy silt
23.23	46.08	0.6024	1.307	-2.141	15	7	silty sand to sandy silt
23.29	49.83	0.5652	1.134	-2.567	15	7	silty sand to sandy silt
23.36	50.49	0.7642	1.514	-2.900	14	7	silty sand to sandy silt
23.43	45.75	0.9057	1.980	-3.220	14	7	silty sand to sandy silt
23.49	39.71	0.8263	2.081	-3.332	14	7	silty sand to sandy silt
23.56	35.83	0.4427	1.236	-3.488	14	7	silty sand to sandy silt
23.62	35.91	0.3039	0.846	-3.690	14	7	silty sand to sandy silt
23.69	45.62	0.3798	0.832	-3.883	14	7	silty sand to sandy silt
23.75	51.75	0.3252	0.628	-3.982	15	7	silty sand to sandy silt
23.82	49.13	0.2588	0.527	-3.911	12	8	sand to silty sand
23.88	51.59	0.1914	0.371	-3.995	12	8	sand to silty sand
23.95	54.18	0.2094	0.386	-3.852	13	8	sand to silty sand
24.02	54.77	0.2968	0.542	-3.933	13	8	sand to silty sand
24.08	54.86	0.4405	0.803	-3.917	13	8	sand to silty sand
24.15	53.39	0.5247	0.983	-3.768	17	7	silty sand to sandy silt
24.21	49.25	0.4501	0.914	-3.513	17	7	silty sand to sandy silt
24.28	49.42	0.4147	0.839	-3.292	17	7	silty sand to sandy silt
24.34	51.50	0.3664	0.711	-2.965	17	7	silty sand to sandy silt
24.41	51.09	0.2798	0.548	-2.470	13	8	sand to silty sand
24.48	53.98	0.3021	0.560	-2.333	14	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
24.54	57.48	0.2248	0.391	-1.783	15	8	sand to silty sand
24.61	67.71	0.4751	0.702	-1.559	16	8	sand to silty sand
24.67	76.18	0.4372	0.574	-1.216	16	8	sand to silty sand
24.74	76.44	0.4558	0.596	-1.036	17	8	sand to silty sand
24.80	73.28	0.5576	0.761	-0.930	18	8	sand to silty sand
24.87	72.02	0.5465	0.759	-0.725	18	8	sand to silty sand
24.93	78.31	0.4316	0.551	9.240	18	8	sand to silty sand
25.00	78.83	0.3836	0.487	8.176	18	8	sand to silty sand
25.07	78.93	0.4877	0.618	8.229	18	8	sand to silty sand
25.13	77.04	0.7181	0.932	7.171	17	8	sand to silty sand
25.20	71.86	0.8260	1.150	6.474	16	8	sand to silty sand
25.26	63.51	0.7782	1.225	6.468	21	7	silty sand to sandy silt
25.33	57.36	0.7439	1.297	6.655	19	7	silty sand to sandy silt
25.39	54.11	0.6674	1.233	7.028	18	7	silty sand to sandy silt
25.46	51.56	0.6163	1.195	7.439	17	7	silty sand to sandy silt
25.52	48.74	0.6090	1.250	6.661	16	7	silty sand to sandy silt
25.59	46.11	0.5964	1.293	5.865	15	7	silty sand to sandy silt
25.66	44.08	0.6838	1.551	5.802	15	7	silty sand to sandy silt
25.72	43.37	0.7677	1.770	5.918	14	7	silty sand to sandy silt
25.79	43.95	0.6617	1.506	6.406	14	7	silty sand to sandy silt
25.85	44.25	0.4817	1.089	6.960	14	7	silty sand to sandy silt
25.92	42.40	0.5106	1.204	7.302	14	7	silty sand to sandy silt
25.98	41.06	0.5132	1.250	7.022	13	7	silty sand to sandy silt
26.05	41.28	0.9156	2.218	5.323	13	7	silty sand to sandy silt
26.12	41.24	0.9081	2.202	4.577	13	7	silty sand to sandy silt
26.18	38.12	0.4775	1.252	4.710	13	7	silty sand to sandy silt
26.25	34.73	0.3166	0.912	4.822	14	7	silty sand to sandy silt
26.31	36.87	0.3423	0.929	4.163	16	7	silty sand to sandy silt
26.38	56.44	0.5010	0.888	4.549	16	7	silty sand to sandy silt
26.44	68.52	0.6600	0.963	3.273	17	7	silty sand to sandy silt
26.51	64.65	0.8668	1.341	3.242	17	7	silty sand to sandy silt
26.57	54.90	0.9633	1.754	3.388	17	7	silty sand to sandy silt
26.64	46.09	0.9514	2.064	3.662	17	7	silty sand to sandy silt
26.71	41.34	0.9419	2.278	3.989	0	0	<out of range>
26.77	41.87	0.8456	2.019	4.499	0	0	<out of range>
26.84	45.78	0.8434	1.842	5.267	25	9	sand
26.90	58.98	-32768	-32768	6.478	0	0	<out of range>
26.97	107.06	-32768	-32768	9.785	0	0	<out of range>
27.03	172.25	-32768	-32768	13.160	0	0	<out of range>
27.10	259.20	-32768	-32768	10.637	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

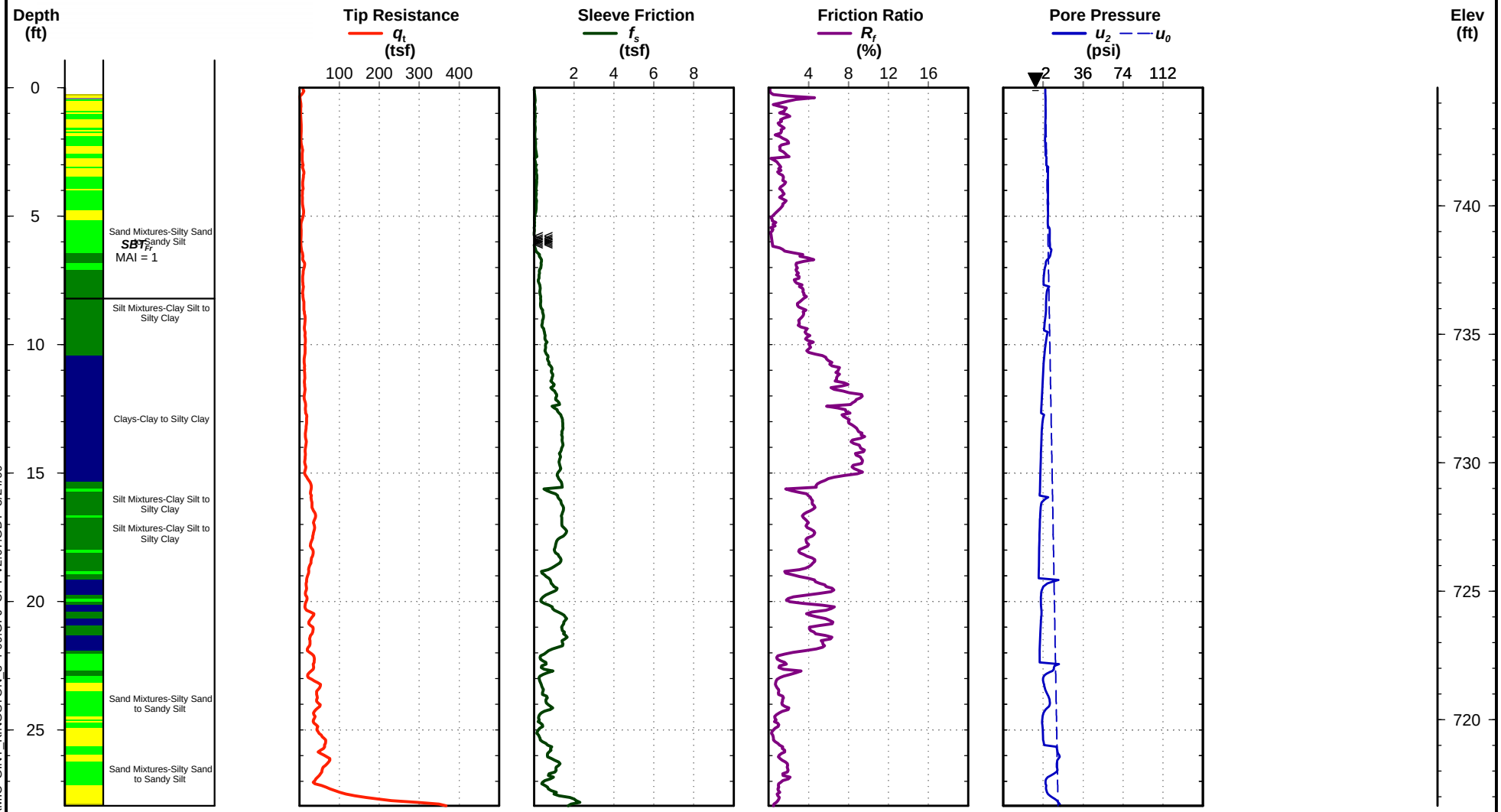
09-208-C2

Project No: 60095742

Date: Jan. 20, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557507.16
Easting: 2441468.46
Elevation: 744.6 NGVD

Total Depth: 28.0 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone

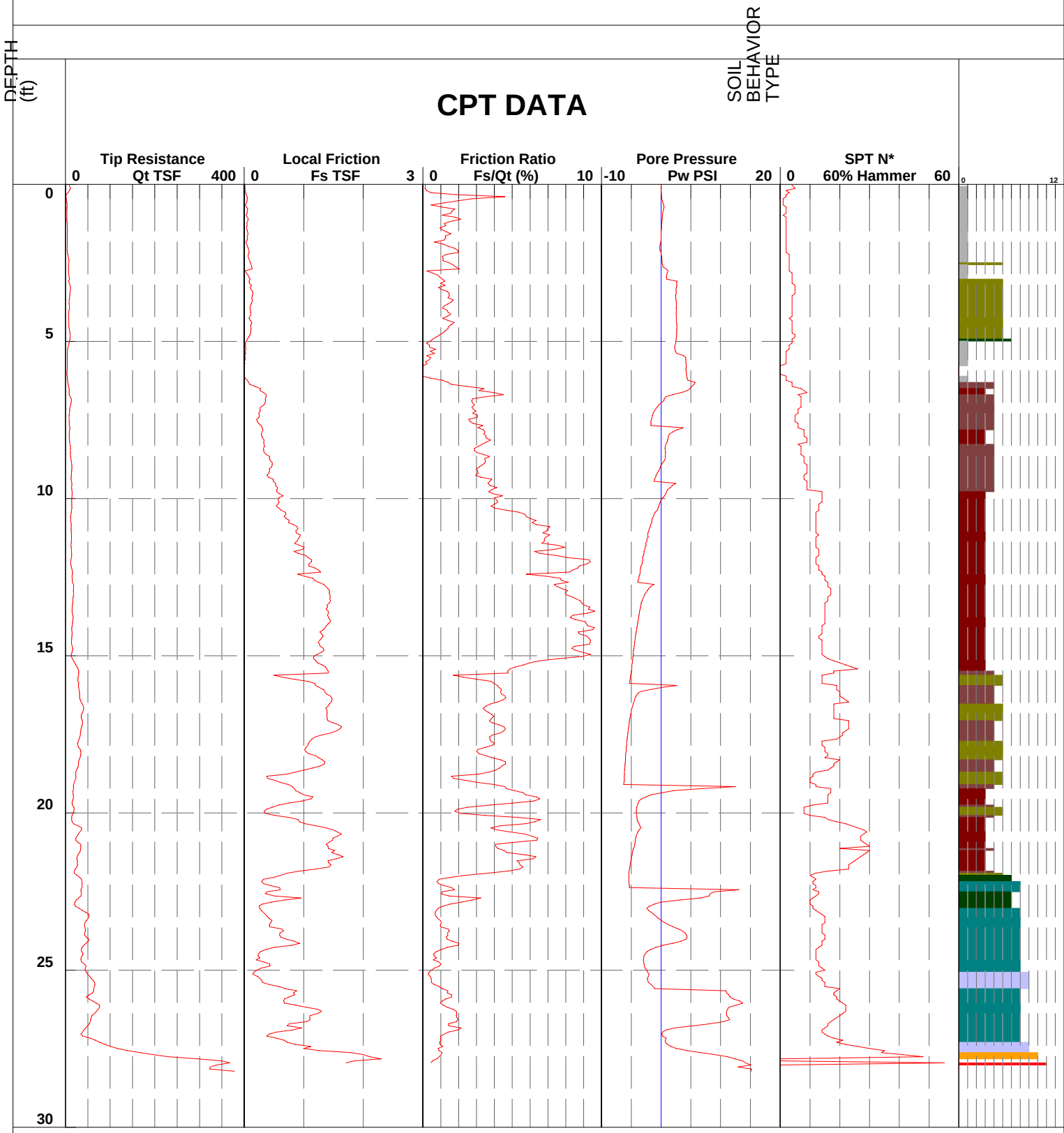


09-208-C2

Electronic Filename: 09-208-C2.cpt

AECOM

09-208-C2	60095742	1/20/2009 2:31:18 PM
DTA1081	TVA-Kingston	CAP CME-750



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-208-C2 1/20/2009 2:31:18 PM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	8.40	0.0115	0.137	0.016	4	1	sensitive fine grained
0.13	11.12	0.0125	0.112	0.040	5	1	sensitive fine grained
0.20	8.63	0.0180	0.208	0.003	2	1	sensitive fine grained
0.26	5.50	0.0248	0.451	0.040	3	1	sensitive fine grained
0.33	1.62	0.0299	1.844	0.062	2	1	sensitive fine grained
0.39	1.08	0.0498	4.588	0.084	2	1	sensitive fine grained
0.46	1.80	0.0492	2.741	0.087	1	1	sensitive fine grained
0.52	2.44	0.0478	1.955	0.243	1	1	sensitive fine grained
0.59	2.93	0.0363	1.237	0.286	1	1	sensitive fine grained
0.66	3.80	0.0173	0.456	0.417	1	1	sensitive fine grained
0.72	3.64	0.0387	1.063	0.513	2	1	sensitive fine grained
0.79	3.29	0.0588	1.787	0.408	2	1	sensitive fine grained
0.85	2.98	0.0487	1.635	0.317	2	1	sensitive fine grained
0.92	2.95	0.0463	1.569	0.246	2	1	sensitive fine grained
0.98	2.92	0.0317	1.086	0.255	1	1	sensitive fine grained
1.05	3.03	0.0556	1.835	0.221	2	1	sensitive fine grained
1.12	3.16	0.0669	2.115	0.202	2	1	sensitive fine grained
1.18	3.46	0.0528	1.528	0.128	2	1	sensitive fine grained
1.25	3.69	0.0443	1.202	0.078	2	1	sensitive fine grained
1.31	3.91	0.0500	1.278	0.118	2	1	sensitive fine grained
1.38	4.14	0.0394	0.952	0.084	2	1	sensitive fine grained
1.44	4.37	0.0461	1.055	0.044	2	1	sensitive fine grained
1.51	4.25	0.0558	1.312	0.000	2	1	sensitive fine grained
1.57	4.21	0.0660	1.569	-0.003	2	1	sensitive fine grained
1.64	4.29	0.0536	1.250	-0.016	2	1	sensitive fine grained
1.71	4.21	0.0539	1.281	0.006	2	1	sensitive fine grained
1.77	4.13	0.0486	1.177	-0.003	2	1	sensitive fine grained
1.84	4.01	0.0260	0.648	-0.078	2	1	sensitive fine grained
1.90	3.81	0.0433	1.137	-0.115	2	1	sensitive fine grained
1.97	3.76	0.0529	1.407	-0.218	2	1	sensitive fine grained
2.03	3.78	0.0668	1.769	-0.212	2	1	sensitive fine grained
2.10	3.82	0.0748	1.955	-0.180	2	1	sensitive fine grained
2.17	4.22	0.0839	1.988	-0.019	2	1	sensitive fine grained
2.23	5.15	0.0666	1.292	0.025	3	1	sensitive fine grained
2.30	5.95	0.0646	1.087	0.106	3	1	sensitive fine grained
2.36	7.06	0.0806	1.140	0.131	3	1	sensitive fine grained
2.43	8.03	0.0897	1.118	0.131	3	1	sensitive fine grained
2.49	7.25	0.1050	1.450	0.165	3	5	clayey silt to silty clay
2.56	6.95	0.1154	1.661	0.271	3	1	sensitive fine grained
2.62	6.87	0.1262	1.836	0.308	3	1	sensitive fine grained
2.69	6.63	0.1358	2.048	0.840	3	1	sensitive fine grained
2.76	6.74	0.0148	0.219	1.164	3	1	sensitive fine grained
2.82	6.97	0.0362	0.519	1.027	4	1	sensitive fine grained
2.89	7.49	0.0618	0.826	0.958	4	1	sensitive fine grained
2.95	8.27	0.0780	0.943	0.884	4	1	sensitive fine grained
3.02	9.01	0.0987	1.096	0.971	4	5	clayey silt to silty clay
3.08	6.65	0.0812	1.221	2.707	4	5	clayey silt to silty clay
3.15	8.85	0.0881	0.996	2.598	4	5	clayey silt to silty clay
3.22	9.96	0.1235	1.240	2.648	5	5	clayey silt to silty clay
3.28	11.13	0.0987	0.887	2.620	5	5	clayey silt to silty clay
3.35	11.13	0.1153	1.036	2.498	5	5	clayey silt to silty clay
3.41	10.13	0.1403	1.386	2.567	5	5	clayey silt to silty clay
3.48	9.73	0.1442	1.481	2.529	5	5	clayey silt to silty clay
3.54	9.48	0.1391	1.467	2.427	4	5	clayey silt to silty clay
3.61	8.94	0.1257	1.406	2.486	4	5	clayey silt to silty clay
3.67	8.21	0.1398	1.702	2.514	4	5	clayey silt to silty clay
3.74	8.16	0.1308	1.603	2.545	4	5	clayey silt to silty clay
3.81	8.25	0.1155	1.400	2.601	4	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.87	8.68	0.1028	1.185	2.570	4	5	clayey silt to silty clay
3.94	9.08	0.0987	1.088	2.542	4	5	clayey silt to silty clay
4.00	7.77	0.1052	1.354	2.576	4	5	clayey silt to silty clay
4.07	7.51	0.1055	1.404	2.548	4	5	clayey silt to silty clay
4.13	7.19	0.1116	1.552	2.557	4	5	clayey silt to silty clay
4.20	7.06	0.0965	1.368	2.564	4	5	clayey silt to silty clay
4.27	7.40	0.0816	1.103	2.579	3	5	clayey silt to silty clay
4.33	7.44	0.1046	1.407	2.579	4	5	clayey silt to silty clay
4.40	7.30	0.1279	1.753	2.607	4	5	clayey silt to silty clay
4.46	7.27	0.1170	1.611	2.632	4	5	clayey silt to silty clay
4.53	7.60	0.1079	1.420	2.685	4	5	clayey silt to silty clay
4.59	8.36	0.1170	1.399	2.629	4	5	clayey silt to silty clay
4.66	8.99	0.1128	1.254	2.635	4	5	clayey silt to silty clay
4.72	9.73	0.1094	1.124	2.617	4	5	clayey silt to silty clay
4.79	10.30	0.0965	0.937	2.626	5	5	clayey silt to silty clay
4.86	10.36	0.0792	0.764	2.592	5	5	clayey silt to silty clay
4.92	9.90	0.0550	0.556	2.545	4	6	sandy silt to clayey silt
4.99	9.04	0.0369	0.409	2.505	4	1	sensitive fine grained
5.05	8.03	0.0163	0.203	2.461	4	1	sensitive fine grained
5.12	7.08	0.0255	0.360	2.365	3	1	sensitive fine grained
5.18	5.73	0.0211	0.369	2.265	3	1	sensitive fine grained
5.25	4.57	0.0331	0.724	2.333	3	1	sensitive fine grained
5.31	4.02	0.0168	0.416	2.427	2	1	sensitive fine grained
5.38	3.91	0.0256	0.655	2.648	2	1	sensitive fine grained
5.45	3.84	0.0080	0.208	3.814	2	1	sensitive fine grained
5.51	4.11	0.0175	0.426	4.160	2	1	sensitive fine grained
5.58	4.07	0.0148	0.362	4.157	2	1	sensitive fine grained
5.64	4.19	0.0059	0.140	4.172	2	1	sensitive fine grained
5.71	4.15	0.0095	0.228	4.191	2	1	sensitive fine grained
5.77	4.19	-0.0101	-0.240	4.225	0	0	<out of range>
5.84	3.93	-0.0046	-0.118	4.166	0	0	<out of range>
5.91	3.81	-0.0208	-0.546	4.166	0	0	<out of range>
5.97	3.46	-0.0293	-0.848	4.259	0	0	<out of range>
6.04	3.30	-0.0216	-0.654	4.234	0	0	<out of range>
6.10	3.78	-0.0075	-0.200	4.325	2	1	sensitive fine grained
6.17	4.37	0.0176	0.403	4.377	2	1	sensitive fine grained
6.23	4.65	0.0517	1.114	4.502	2	1	sensitive fine grained
6.30	5.23	0.0738	1.411	5.750	4	4	silty clay to clay
6.36	5.88	0.0943	1.604	5.522	4	4	silty clay to clay
6.43	7.21	0.1790	2.480	5.174	4	4	silty clay to clay
6.50	8.05	0.2745	3.410	4.891	7	3	clay
6.56	8.40	0.2632	3.133	4.427	8	3	clay
6.63	8.16	0.3239	3.968	3.441	9	3	clay
6.69	8.24	0.3722	4.519	1.932	6	4	silty clay to clay
6.76	10.57	0.3688	3.489	0.803	7	4	silty clay to clay
6.82	12.72	0.3540	2.784	0.541	7	4	silty clay to clay
6.89	13.13	0.3585	2.730	0.460	7	4	silty clay to clay
6.96	12.57	0.3500	2.785	0.006	7	4	silty clay to clay
7.02	11.47	0.3310	2.885	-0.408	7	4	silty clay to clay
7.09	10.07	0.2764	2.744	-0.638	7	4	silty clay to clay
7.15	9.36	0.2640	2.821	-0.905	6	4	silty clay to clay
7.22	9.15	0.2716	2.969	-1.129	6	4	silty clay to clay
7.28	8.79	0.2454	2.791	-1.300	6	4	silty clay to clay
7.35	8.24	0.2524	3.063	-1.453	5	4	silty clay to clay
7.41	8.20	0.2492	3.039	-1.515	5	4	silty clay to clay
7.48	8.24	0.2116	2.568	-1.612	5	4	silty clay to clay
7.55	8.25	0.2181	2.644	-1.714	5	4	silty clay to clay
7.61	8.71	0.2453	2.815	-1.696	6	4	silty clay to clay
7.68	8.42	0.2827	3.357	-1.702	6	4	silty clay to clay
7.74	9.84	0.3027	3.076	3.721	6	4	silty clay to clay
7.81	9.27	0.3139	3.387	2.679	8	3	clay
7.87	8.64	0.3001	3.472	1.979	8	3	clay
7.94	8.39	0.2871	3.420	1.453	8	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
8.01	8.39	0.2968	3.536	1.241	8	3	clay
8.07	8.68	0.3066	3.533	1.192	9	3	clay
8.14	8.80	0.3340	3.796	1.136	9	3	clay
8.20	9.22	0.3258	3.532	0.999	9	3	clay
8.27	10.06	0.3336	3.317	0.815	6	4	silty clay to clay
8.33	10.86	0.3388	3.118	0.700	7	4	silty clay to clay
8.40	11.23	0.3237	2.882	0.663	7	4	silty clay to clay
8.46	11.28	0.3260	2.889	0.697	7	4	silty clay to clay
8.53	11.03	0.3320	3.010	0.772	7	4	silty clay to clay
8.60	10.94	0.3720	3.401	0.697	7	4	silty clay to clay
8.66	11.45	0.4286	3.742	0.703	8	4	silty clay to clay
8.73	12.20	0.4204	3.445	0.709	8	4	silty clay to clay
8.79	12.58	0.4411	3.505	0.548	8	4	silty clay to clay
8.86	13.57	0.4716	3.475	0.268	8	4	silty clay to clay
8.92	14.07	0.4694	3.337	0.065	9	4	silty clay to clay
8.99	14.48	0.4590	3.170	-0.115	9	4	silty clay to clay
9.06	14.09	0.4224	2.998	-0.240	9	4	silty clay to clay
9.12	13.90	0.4257	3.063	-0.423	9	4	silty clay to clay
9.19	13.46	0.4148	3.083	-0.628	9	4	silty clay to clay
9.25	13.01	0.3849	2.958	-0.831	8	4	silty clay to clay
9.32	12.54	0.4042	3.222	-0.915	8	4	silty clay to clay
9.38	12.61	0.4873	3.864	-1.086	8	4	silty clay to clay
9.45	13.07	0.4894	3.746	-1.154	9	4	silty clay to clay
9.51	14.41	0.5246	3.640	2.470	9	4	silty clay to clay
9.58	14.06	0.5297	3.767	1.870	9	4	silty clay to clay
9.65	13.54	0.5605	4.140	1.571	9	4	silty clay to clay
9.71	14.26	0.5496	3.854	1.070	9	4	silty clay to clay
9.78	14.85	0.5461	3.679	0.930	14	3	clay
9.84	15.00	0.5870	3.913	0.809	14	3	clay
9.91	14.60	0.6534	4.475	0.576	14	3	clay
9.97	14.47	0.5791	4.001	0.286	14	3	clay
10.04	13.79	0.5684	4.123	0.028	14	3	clay
10.10	13.95	0.5855	4.198	-0.128	14	3	clay
10.17	14.09	0.5666	4.022	-0.286	13	3	clay
10.24	14.09	0.5385	3.822	-0.398	13	3	clay
10.30	14.47	0.5813	4.018	-0.516	13	3	clay
10.37	13.32	0.6224	4.673	-0.616	13	3	clay
10.43	12.81	0.6894	5.383	-0.974	12	3	clay
10.50	12.23	0.7005	5.728	-1.154	12	3	clay
10.56	11.56	0.6693	5.789	-1.269	12	3	clay
10.63	11.78	0.7071	6.003	-1.481	12	3	clay
10.70	11.97	0.7584	6.336	-1.552	12	3	clay
10.76	12.15	0.7430	6.117	-1.562	12	3	clay
10.83	13.03	0.8266	6.341	-1.748	12	3	clay
10.89	12.47	0.8864	7.110	-1.786	12	3	clay
10.96	12.88	0.9004	6.991	-1.985	12	3	clay
11.02	12.51	0.8681	6.938	-2.025	12	3	clay
11.09	12.98	0.8715	6.715	-2.193	12	3	clay
11.15	13.23	0.9400	7.103	-2.225	13	3	clay
11.22	13.56	0.9339	6.886	-2.165	12	3	clay
11.29	13.30	0.9045	6.800	-2.365	12	3	clay
11.35	13.06	0.8887	6.806	-2.365	12	3	clay
11.42	12.67	0.8443	6.662	-2.567	12	3	clay
11.48	12.35	0.9299	7.532	-2.505	12	3	clay
11.55	12.68	1.0078	7.946	-2.679	12	3	clay
11.61	13.30	0.9800	7.370	-2.716	13	3	clay
11.68	13.33	0.8328	6.247	-2.862	13	3	clay
11.75	13.92	0.9131	6.560	-2.850	13	3	clay
11.81	13.77	1.0292	7.473	-2.996	13	3	clay
11.88	13.24	1.0712	8.090	-3.093	12	3	clay
11.94	12.17	1.1337	9.314	-3.040	12	3	clay
12.01	12.04	1.1276	9.367	-3.158	12	3	clay
12.07	11.80	1.0842	9.192	-3.189	12	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
12.14	12.40	1.0870	8.763	-3.351	13	3	clay
12.20	13.61	1.1821	8.688	-3.444	13	3	clay
12.27	14.89	1.2488	8.386	-3.475	13	3	clay
12.34	15.60	1.2816	8.214	-3.506	14	3	clay
12.40	15.53	0.8983	5.785	-3.550	14	3	clay
12.47	14.63	1.0080	6.890	-3.699	15	3	clay
12.53	15.06	1.1587	7.694	-3.740	15	3	clay
12.60	15.18	1.1756	7.742	-3.852	15	3	clay
12.66	15.35	1.2494	8.138	-3.917	16	3	clay
12.73	18.17	1.3353	7.351	-1.201	16	3	clay
12.80	18.22	1.3683	7.510	-1.686	16	3	clay
12.86	18.06	1.4049	7.780	-2.072	17	3	clay
12.93	17.71	1.4314	8.084	-2.305	17	3	clay
12.99	17.91	1.4283	7.975	-2.542	17	3	clay
13.06	17.93	1.4372	8.017	-2.757	17	3	clay
13.12	17.29	1.4443	8.352	-2.921	16	3	clay
13.19	16.73	1.4367	8.586	-3.055	16	3	clay
13.25	16.45	1.4499	8.813	-3.198	16	3	clay
13.32	16.05	1.4278	8.899	-3.313	15	3	clay
13.39	15.42	1.3910	9.023	-3.385	15	3	clay
13.45	14.97	1.3998	9.354	-3.453	15	3	clay
13.52	14.85	1.3749	9.261	-3.509	15	3	clay
13.58	14.67	1.4110	9.620	-3.606	15	3	clay
13.65	15.35	1.4128	9.207	-3.640	15	3	clay
13.71	16.66	1.3993	8.402	-3.693	15	3	clay
13.78	17.20	1.4188	8.249	-3.752	15	3	clay
13.85	16.85	1.4378	8.534	-3.811	15	3	clay
13.91	15.98	1.4505	9.079	-3.864	15	3	clay
13.98	15.46	1.4140	9.147	-3.936	15	3	clay
14.04	14.94	1.3777	9.223	-4.004	14	3	clay
14.11	14.18	1.3614	9.601	-4.054	14	3	clay
14.17	13.95	1.3247	9.495	-4.125	14	3	clay
14.24	14.63	1.2725	8.701	-4.188	14	3	clay
14.30	14.85	1.3020	8.766	-4.241	14	3	clay
14.37	14.42	1.3225	9.169	-4.284	13	3	clay
14.44	14.02	1.3012	9.284	-4.331	13	3	clay
14.50	13.57	1.2732	9.386	-4.387	14	3	clay
14.57	13.26	1.2438	9.382	-4.415	14	3	clay
14.63	13.57	1.2624	9.303	-4.465	14	3	clay
14.70	15.12	1.2795	8.462	-4.527	14	3	clay
14.76	15.95	1.3300	8.338	-4.517	14	3	clay
14.83	15.64	1.3392	8.565	-4.623	14	3	clay
14.90	14.36	1.2906	8.989	-4.636	14	3	clay
14.96	12.96	1.2181	9.395	-4.657	14	3	clay
15.03	13.17	1.1686	8.875	-4.717	15	3	clay
15.09	15.32	1.1612	7.582	-4.754	16	3	clay
15.16	18.37	1.2027	6.546	-4.797	18	3	clay
15.22	20.59	1.2310	5.979	-4.829	20	3	clay
15.29	23.22	1.3100	5.641	-4.900	22	3	clay
15.35	26.25	1.3649	5.199	-4.903	24	3	clay
15.42	28.39	1.3870	4.885	-4.919	26	3	clay
15.49	29.65	1.4082	4.749	-4.965	18	4	silty clay to clay
15.55	29.68	1.4124	4.758	-5.000	18	4	silty clay to clay
15.62	29.34	0.5000	1.704	-5.105	14	5	clayey silt to silty clay
15.68	28.35	0.6406	2.260	-5.130	14	5	clayey silt to silty clay
15.75	27.79	0.8475	3.049	-5.186	14	5	clayey silt to silty clay
15.81	27.91	1.0660	3.820	-5.239	14	5	clayey silt to silty clay
15.88	29.95	1.1835	3.951	-5.326	14	5	clayey silt to silty clay
15.94	28.67	1.1963	4.174	2.691	19	4	silty clay to clay
16.01	29.51	1.2581	4.264	0.087	19	4	silty clay to clay
16.08	30.41	1.3375	4.398	-1.898	19	4	silty clay to clay
16.14	31.13	1.3549	4.352	-3.506	20	4	silty clay to clay
16.21	31.45	1.3790	4.385	-3.942	20	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
16.27	31.45	1.4412	4.583	-4.185	20	4	silty clay to clay
16.34	31.67	1.4723	4.648	-4.340	21	4	silty clay to clay
16.40	32.97	1.4752	4.474	-4.471	22	4	silty clay to clay
16.47	34.96	1.4611	4.180	-4.570	23	4	silty clay to clay
16.54	37.84	1.4311	3.782	-4.667	18	5	clayey silt to silty clay
16.60	40.01	1.4060	3.514	-4.773	18	5	clayey silt to silty clay
16.67	40.59	1.3698	3.375	-4.894	18	5	clayey silt to silty clay
16.73	40.00	1.3888	3.472	-4.975	18	5	clayey silt to silty clay
16.80	38.09	1.3928	3.656	-5.031	18	5	clayey silt to silty clay
16.86	36.12	1.3909	3.851	-5.102	18	5	clayey silt to silty clay
16.93	34.86	1.3881	3.982	-5.168	18	5	clayey silt to silty clay
16.99	36.25	1.3935	3.844	-5.236	18	5	clayey silt to silty clay
17.06	37.69	1.4046	3.727	-5.298	23	4	silty clay to clay
17.13	38.31	1.4837	3.872	-5.336	23	4	silty clay to clay
17.19	37.37	1.5783	4.223	-5.361	23	4	silty clay to clay
17.26	36.15	1.6364	4.527	-5.423	23	4	silty clay to clay
17.32	34.81	1.6101	4.625	-5.497	23	4	silty clay to clay
17.39	34.23	1.5528	4.537	-5.497	22	4	silty clay to clay
17.45	33.51	1.4601	4.357	-5.569	21	4	silty clay to clay
17.52	33.38	1.2956	3.882	-5.606	21	4	silty clay to clay
17.59	31.81	1.1891	3.738	-5.669	20	4	silty clay to clay
17.65	30.22	1.1360	3.759	-5.687	19	4	silty clay to clay
17.72	28.99	1.1039	3.808	-5.768	14	5	clayey silt to silty clay
17.78	26.94	1.0805	4.011	-5.768	14	5	clayey silt to silty clay
17.85	27.61	1.0713	3.879	-5.771	14	5	clayey silt to silty clay
17.91	29.80	1.0424	3.498	-5.871	15	5	clayey silt to silty clay
17.98	33.05	1.0144	3.069	-5.862	15	5	clayey silt to silty clay
18.04	34.42	1.0341	3.005	-5.855	15	5	clayey silt to silty clay
18.11	34.35	1.0814	3.149	-5.930	16	5	clayey silt to silty clay
18.18	34.10	1.2009	3.522	-5.952	16	5	clayey silt to silty clay
18.24	32.42	1.2466	3.845	-5.974	15	5	clayey silt to silty clay
18.31	30.11	1.3111	4.355	-5.933	20	4	silty clay to clay
18.37	29.29	1.3530	4.619	-5.998	19	4	silty clay to clay
18.44	29.08	1.3437	4.620	-6.033	18	4	silty clay to clay
18.50	28.79	1.2758	4.431	-6.054	18	4	silty clay to clay
18.57	26.70	1.1440	4.284	-6.107	17	4	silty clay to clay
18.64	24.71	1.0067	4.074	-6.135	16	4	silty clay to clay
18.70	23.26	0.8612	3.703	-6.148	12	5	clayey silt to silty clay
18.77	22.84	0.7061	3.091	-6.138	11	5	clayey silt to silty clay
18.83	23.37	0.3730	1.596	-6.173	11	5	clayey silt to silty clay
18.90	23.01	0.3942	1.713	-6.182	10	5	clayey silt to silty clay
18.96	21.31	0.5151	2.418	-6.170	10	5	clayey silt to silty clay
19.03	19.94	0.6113	3.065	-6.238	10	5	clayey silt to silty clay
19.09	18.60	0.7375	3.965	-6.257	12	4	silty clay to clay
19.16	17.65	0.8099	4.589	12.569	12	4	silty clay to clay
19.23	18.00	0.8409	4.672	6.873	17	3	clay
19.29	16.93	0.8666	5.120	2.066	17	3	clay
19.36	16.65	0.9355	5.618	0.227	17	3	clay
19.42	17.40	1.0009	5.753	-1.773	16	3	clay
19.49	18.18	1.1564	6.360	-2.483	16	3	clay
19.55	17.13	1.1208	6.541	-3.307	16	3	clay
19.62	15.56	0.9701	6.234	-3.693	16	3	clay
19.69	14.81	0.7529	5.085	-3.858	16	3	clay
19.75	15.36	0.5809	3.782	-3.964	11	4	silty clay to clay
19.82	18.79	0.4695	2.498	-4.082	8	5	clayey silt to silty clay
19.88	19.38	0.3753	1.937	-4.129	8	5	clayey silt to silty clay
19.95	18.65	0.3327	1.784	-4.172	8	5	clayey silt to silty clay
20.01	16.74	0.3559	2.126	-4.097	8	5	clayey silt to silty clay
20.08	14.72	0.5154	3.501	-4.073	10	4	silty clay to clay
20.14	13.96	0.7445	5.335	-4.048	15	3	clay
20.21	13.77	0.9076	6.592	-4.010	16	3	clay
20.28	14.82	0.9298	6.272	-3.911	19	3	clay
20.34	17.95	1.0270	5.721	-3.705	22	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
20.41	27.65	1.2026	4.350	-3.537	24	3	clay
20.47	36.17	1.3758	3.804	-3.394	26	3	clay
20.54	35.90	1.4935	4.160	-3.662	28	3	clay
20.60	32.05	1.5618	4.873	-3.923	29	3	clay
20.67	28.64	1.6346	5.707	-4.032	28	3	clay
20.73	25.74	1.5666	6.087	-4.166	27	3	clay
20.80	23.12	1.4878	6.436	-4.262	27	3	clay
20.87	23.26	1.4821	6.373	-4.325	27	3	clay
20.93	27.67	1.4221	5.140	-4.337	28	3	clay
21.00	33.80	1.3774	4.076	-4.399	29	3	clay
21.06	34.51	1.4078	4.079	-4.452	30	3	clay
21.13	33.63	1.4140	4.204	-4.639	20	4	silty clay to clay
21.19	33.51	1.5201	4.536	-4.720	30	3	clay
21.26	31.32	1.4709	4.697	-4.825	29	3	clay
21.33	27.78	1.5808	5.691	-4.847	28	3	clay
21.39	26.24	1.6609	6.330	-4.969	27	3	clay
21.46	25.06	1.5500	6.185	-4.987	26	3	clay
21.52	26.68	1.4070	5.273	-5.053	25	3	clay
21.59	26.30	1.4202	5.400	-5.152	24	3	clay
21.65	26.74	1.4534	5.435	-5.155	23	3	clay
21.72	25.41	1.4234	5.602	-5.239	23	3	clay
21.78	22.14	1.1981	5.412	-5.289	23	3	clay
21.85	19.46	0.9264	4.761	-5.367	16	4	silty clay to clay
21.92	19.86	0.7285	3.669	-5.426	12	5	clayey silt to silty clay
21.98	25.23	0.6145	2.436	-5.361	10	6	sandy silt to clayey silt
22.05	31.57	0.5055	1.601	-5.401	11	6	sandy silt to clayey silt
22.11	35.60	0.3257	0.915	-5.404	12	6	sandy silt to clayey silt
22.18	37.04	0.2933	0.792	-5.407	11	7	silty sand to sandy silt
22.24	37.31	0.3237	0.868	-5.376	11	7	silty sand to sandy silt
22.31	37.10	0.4410	1.189	-5.333	12	7	silty sand to sandy silt
22.38	36.76	0.5919	1.610	-5.326	12	7	silty sand to sandy silt
22.44	34.31	0.6066	1.768	13.067	11	7	silty sand to sandy silt
22.51	35.23	0.3829	1.087	8.935	13	6	sandy silt to clayey silt
22.57	35.39	0.3587	1.013	8.223	13	6	sandy silt to clayey silt
22.64	34.48	0.5092	1.477	8.074	12	6	sandy silt to clayey silt
22.70	29.39	0.9537	3.245	6.649	11	6	sandy silt to clayey silt
22.77	24.50	0.6772	2.764	3.173	10	6	sandy silt to clayey silt
22.83	20.98	0.4535	2.161	-0.062	10	6	sandy silt to clayey silt
22.90	20.13	0.3040	1.510	-1.120	10	6	sandy silt to clayey silt
22.97	22.18	0.2502	1.128	-1.960	11	6	sandy silt to clayey silt
23.03	30.83	0.2614	0.848	-2.389	11	7	silty sand to sandy silt
23.10	37.78	0.2859	0.757	-2.091	12	7	silty sand to sandy silt
23.16	46.02	0.3225	0.701	-1.633	13	7	silty sand to sandy silt
23.23	52.58	0.3567	0.678	-1.201	14	7	silty sand to sandy silt
23.29	52.35	0.3885	0.742	-0.815	15	7	silty sand to sandy silt
23.36	50.32	0.4230	0.841	-0.392	15	7	silty sand to sandy silt
23.43	46.99	0.4650	0.990	0.059	15	7	silty sand to sandy silt
23.49	43.06	0.4447	1.033	0.607	15	7	silty sand to sandy silt
23.56	42.87	0.4199	0.979	1.260	14	7	silty sand to sandy silt
23.62	43.02	0.4263	0.991	2.050	14	7	silty sand to sandy silt
23.69	44.29	0.6271	1.416	2.869	14	7	silty sand to sandy silt
23.75	44.65	0.6635	1.486	3.612	14	7	silty sand to sandy silt
23.82	43.18	0.5975	1.384	4.035	14	7	silty sand to sandy silt
23.88	42.73	0.5960	1.395	4.253	15	7	silty sand to sandy silt
23.95	46.59	0.6133	1.316	4.374	15	7	silty sand to sandy silt
24.02	52.19	0.7095	1.360	4.144	15	7	silty sand to sandy silt
24.08	51.13	0.8359	1.635	3.397	14	7	silty sand to sandy silt
24.15	46.11	0.9307	2.019	1.951	14	7	silty sand to sandy silt
24.21	40.90	0.7994	1.955	0.252	14	7	silty sand to sandy silt
24.28	37.22	0.5064	1.361	-0.865	13	7	silty sand to sandy silt
24.34	35.17	0.3662	1.041	-1.717	12	7	silty sand to sandy silt
24.41	36.21	0.2781	0.768	-2.318	12	7	silty sand to sandy silt
24.48	39.39	0.2421	0.615	-2.632	12	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
24.54	37.23	0.2301	0.618	-2.859	12	7	silty sand to sandy silt
24.61	34.85	0.2642	0.758	-2.906	12	7	silty sand to sandy silt
24.67	34.59	0.1997	0.577	-2.946	12	7	silty sand to sandy silt
24.74	36.20	0.3210	0.887	-2.943	13	7	silty sand to sandy silt
24.80	42.07	0.4269	1.015	-2.856	13	7	silty sand to sandy silt
24.87	46.29	0.4332	0.936	-2.806	13	7	silty sand to sandy silt
24.93	44.32	0.2848	0.643	-2.673	14	7	silty sand to sandy silt
25.00	43.81	0.2081	0.475	-2.402	15	7	silty sand to sandy silt
25.07	46.89	0.1606	0.342	-2.265	12	8	sand to silty sand
25.13	49.45	0.1447	0.293	-1.997	12	8	sand to silty sand
25.20	54.36	0.2228	0.410	-2.147	13	8	sand to silty sand
25.26	57.32	0.2627	0.458	-2.293	14	8	sand to silty sand
25.33	61.53	0.2957	0.481	-2.240	14	8	sand to silty sand
25.39	65.42	0.3080	0.471	-2.100	15	8	sand to silty sand
25.46	65.78	0.4264	0.648	-1.655	15	8	sand to silty sand
25.52	64.80	0.5955	0.919	-1.344	15	8	sand to silty sand
25.59	62.91	0.6847	1.088	-1.027	20	7	silty sand to sandy silt
25.66	63.16	0.8826	1.397	10.936	19	7	silty sand to sandy silt
25.72	60.45	0.8283	1.370	11.014	18	7	silty sand to sandy silt
25.79	53.01	0.8480	1.600	11.343	18	7	silty sand to sandy silt
25.85	46.54	0.7528	1.618	11.567	19	7	silty sand to sandy silt
25.92	52.86	0.6763	1.280	12.165	19	7	silty sand to sandy silt
25.98	61.12	0.6629	1.085	13.204	20	7	silty sand to sandy silt
26.05	68.87	0.6783	0.985	13.711	21	7	silty sand to sandy silt
26.12	76.28	0.8689	1.139	12.638	22	7	silty sand to sandy silt
26.18	76.32	1.0364	1.358	11.431	22	7	silty sand to sandy silt
26.25	73.01	1.2351	1.692	11.160	22	7	silty sand to sandy silt
26.31	69.30	1.3005	1.877	11.001	22	7	silty sand to sandy silt
26.38	64.82	1.2334	1.903	10.986	21	7	silty sand to sandy silt
26.44	59.37	1.1068	1.864	11.023	20	7	silty sand to sandy silt
26.51	57.50	1.0962	1.906	11.315	19	7	silty sand to sandy silt
26.57	56.47	1.1090	1.964	11.533	18	7	silty sand to sandy silt
26.64	55.68	1.0448	1.877	10.435	17	7	silty sand to sandy silt
26.71	53.11	0.7555	1.423	8.154	16	7	silty sand to sandy silt
26.77	49.82	0.7186	1.442	5.357	16	7	silty sand to sandy silt
26.84	45.24	0.9707	2.145	2.324	15	7	silty sand to sandy silt
26.90	41.25	0.8121	1.969	0.837	14	7	silty sand to sandy silt
26.97	38.52	0.5480	1.423	0.236	14	7	silty sand to sandy silt
27.03	34.63	0.4181	1.207	0.137	15	7	silty sand to sandy silt
27.10	38.62	0.3804	0.985	0.255	16	7	silty sand to sandy silt
27.17	55.23	0.5406	0.979	0.874	18	7	silty sand to sandy silt
27.23	66.63	0.6727	1.010	0.678	21	7	silty sand to sandy silt
27.30	76.85	0.7183	0.935	0.768	19	8	sand to silty sand
27.36	88.80	0.8571	0.965	1.086	22	8	sand to silty sand
27.43	101.00	1.1186	1.108	1.677	26	8	sand to silty sand
27.49	116.38	0.9964	0.856	2.589	30	8	sand to silty sand
27.56	138.85	1.2589	0.907	4.356	35	8	sand to silty sand
27.62	166.71	1.7896	1.073	6.670	34	9	sand
27.69	195.61	1.9987	1.022	9.010	41	9	sand
27.76	230.73	2.1094	0.914	11.154	48	9	sand
27.82	295.42	2.2982	0.778	12.383	0	0	<out of range>
27.89	349.27	1.8505	0.530	13.689	0	0	<out of range>
27.95	367.19	1.7076	0.465	14.153	55	10	gravelly sand to sand
28.02	338.24	-32768	-32768	15.096	0	0	<out of range>
28.08	323.92	-32768	-32768	12.896	0	0	<out of range>
28.15	322.35	-32768	-32768	15.229	0	0	<out of range>
28.22	378.59	-32768	-32768	15.089	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

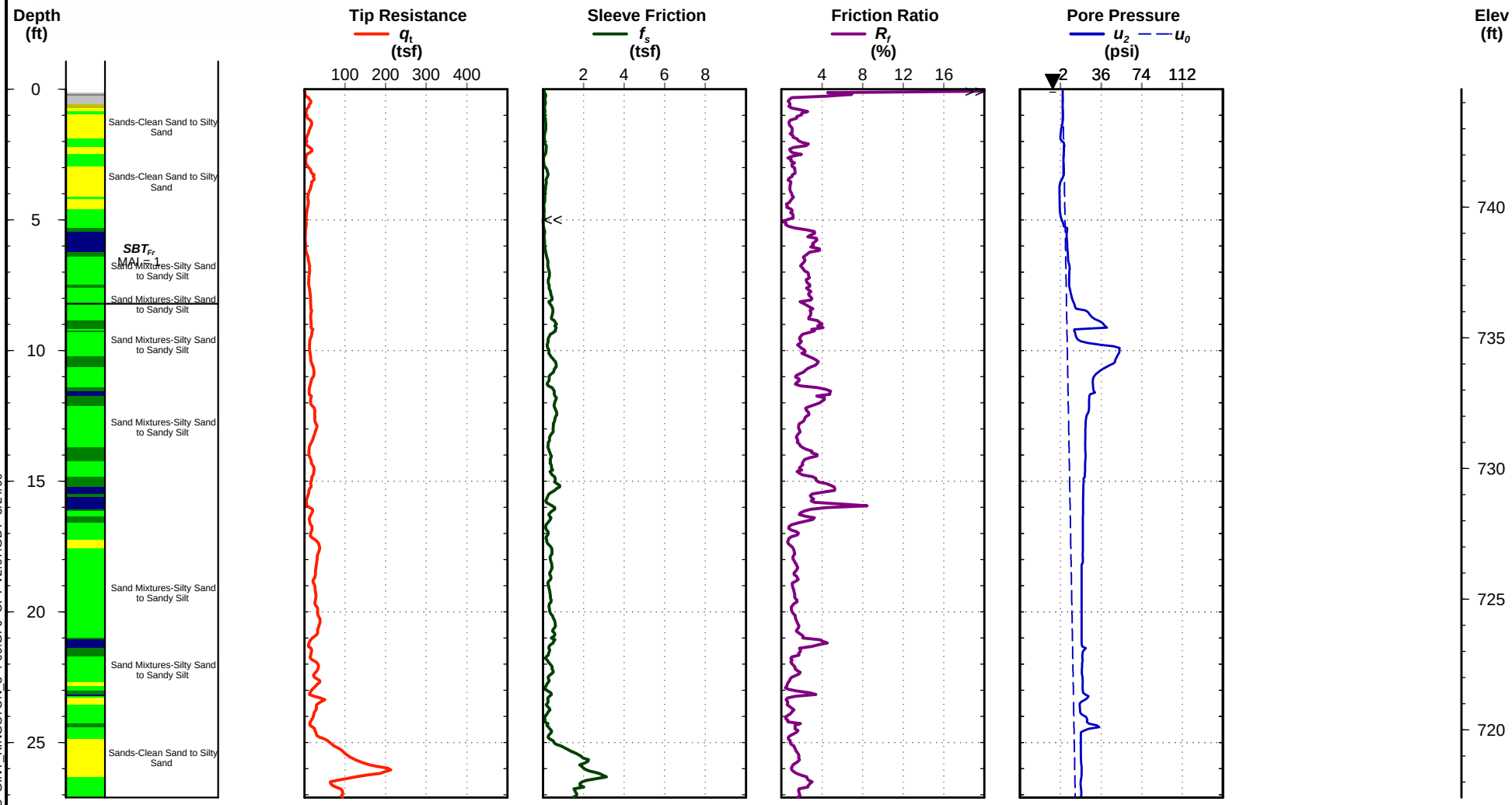
09-209-C1

Project No: 60095742

Date: Jan. 20, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557399.87
Easting: 2441601.21
Elevation: 744.51 NGVD

Total Depth: 27.1 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

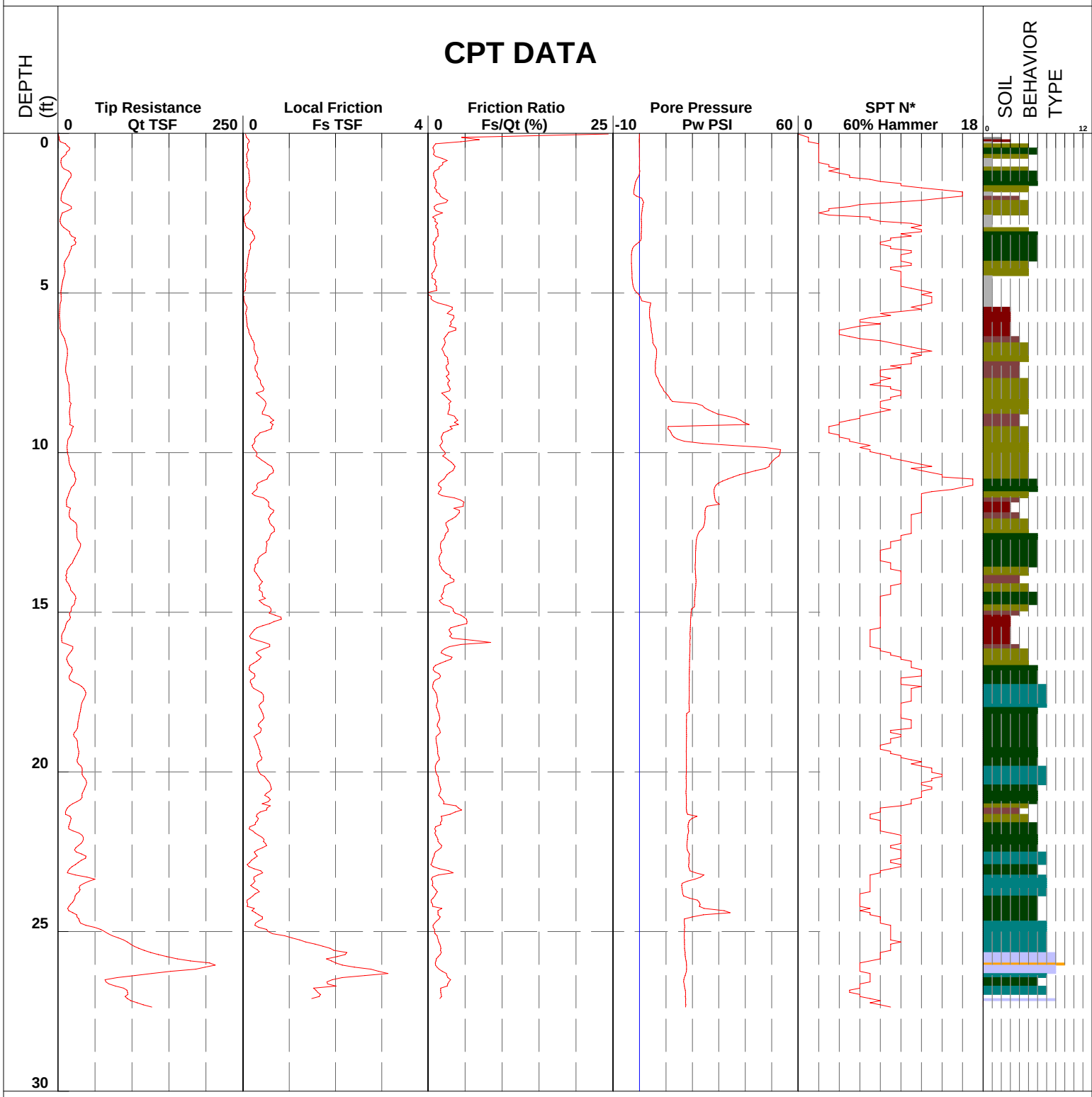
09-209-C1

Electronic Filename: 09-209-C1.cpt

AECOM

09-209-C1	60095742	1/20/2009 10:46:06 AM
DTA1081	TVA-Kingston	CAP CME-750
557,399.87N	2,441,601.21E	Elev. 744.51 ft

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-209-C1 1/20/2009 10:46:06 AM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.22	0.0548	24.362	-0.016	0	0	<out of range>
0.13	1.65	0.0748	4.537	-0.068	1	2	organic material
0.20	1.77	0.1228	6.924	-0.096	4	3	clay
0.26	3.11	0.1388	4.459	-0.090	3	1	sensitive fine grained
0.33	10.07	0.1040	1.033	-0.047	4	5	clayey silt to silty clay
0.39	12.51	0.0989	0.791	-0.059	5	5	clayey silt to silty clay
0.46	15.92	0.1044	0.656	-0.040	4	6	sandy silt to clayey silt
0.52	15.33	0.1216	0.793	-0.056	5	6	sandy silt to clayey silt
0.59	11.68	0.0981	0.840	-0.072	4	6	sandy silt to clayey silt
0.66	11.01	0.0789	0.717	-0.072	5	5	clayey silt to silty clay
0.72	7.95	0.0810	1.019	-0.068	4	5	clayey silt to silty clay
0.79	4.70	0.0889	1.889	-0.009	3	1	sensitive fine grained
0.85	4.11	0.1067	2.596	0.044	3	1	sensitive fine grained
0.92	3.93	0.0784	1.997	0.022	3	1	sensitive fine grained
0.98	4.61	0.0915	1.985	-0.006	3	1	sensitive fine grained
1.05	5.53	0.0830	1.500	-0.016	4	5	clayey silt to silty clay
1.12	8.08	0.1194	1.478	-0.062	5	5	clayey silt to silty clay
1.18	14.45	0.1306	0.904	0.100	5	6	sandy silt to clayey silt
1.25	17.29	0.1275	0.737	0.000	5	6	sandy silt to clayey silt
1.31	17.92	0.1351	0.754	-0.131	6	6	sandy silt to clayey silt
1.38	17.38	0.1389	0.799	-0.594	6	6	sandy silt to clayey silt
1.44	14.62	0.1402	0.959	-1.030	6	6	sandy silt to clayey silt
1.51	13.35	0.1440	1.079	-1.416	5	6	sandy silt to clayey silt
1.57	11.64	0.1226	1.053	-1.630	5	6	sandy silt to clayey silt
1.64	10.65	0.1126	1.057	-1.742	5	5	clayey silt to silty clay
1.71	9.16	0.0791	0.864	-1.935	4	5	clayey silt to silty clay
1.77	7.10	0.0808	1.138	-2.066	4	5	clayey silt to silty clay
1.84	5.78	0.0655	1.133	-2.144	3	1	sensitive fine grained
1.90	4.97	0.0781	1.572	-2.137	3	1	sensitive fine grained
1.97	4.41	0.0729	1.653	-1.179	3	4	silty clay to clay
2.03	4.12	0.0846	2.052	0.849	4	4	silty clay to clay
2.10	4.10	0.1087	2.652	1.195	4	5	clayey silt to silty clay
2.17	6.78	0.1641	2.422	1.593	5	5	clayey silt to silty clay
2.23	13.29	0.1586	1.193	1.269	5	5	clayey silt to silty clay
2.30	17.96	0.1462	0.814	1.232	5	5	clayey silt to silty clay
2.36	18.29	0.1583	0.866	1.058	5	5	clayey silt to silty clay
2.43	13.00	0.1389	1.068	0.974	5	5	clayey silt to silty clay
2.49	5.82	0.1150	1.976	0.871	5	5	clayey silt to silty clay
2.56	4.68	0.0526	1.123	0.753	4	1	sensitive fine grained
2.62	3.78	0.0238	0.631	0.722	3	1	sensitive fine grained
2.69	3.11	0.0303	0.974	0.678	2	1	sensitive fine grained
2.76	2.89	0.0270	0.935	0.728	2	1	sensitive fine grained
2.82	3.58	0.0467	1.303	0.772	3	1	sensitive fine grained
2.89	5.27	0.0543	1.031	0.744	3	1	sensitive fine grained
2.95	7.82	0.0823	1.052	0.734	4	5	clayey silt to silty clay
3.02	11.91	0.1572	1.321	0.737	5	5	clayey silt to silty clay
3.08	15.67	0.2060	1.315	0.716	5	6	sandy silt to clayey silt
3.15	16.06	0.2148	1.337	0.650	6	6	sandy silt to clayey silt
3.22	18.41	0.2491	1.354	0.641	7	6	sandy silt to clayey silt
3.28	23.81	0.2528	1.062	0.672	8	6	sandy silt to clayey silt
3.35	21.86	0.2277	1.042	0.507	8	6	sandy silt to clayey silt
3.41	24.17	0.1810	0.749	-0.286	8	6	sandy silt to clayey silt
3.48	23.32	0.1542	0.661	-1.248	8	6	sandy silt to clayey silt
3.54	18.12	0.1643	0.907	-2.141	8	6	sandy silt to clayey silt
3.61	18.16	0.1661	0.915	-2.632	7	6	sandy silt to clayey silt
3.67	16.71	0.1398	0.837	-2.847	7	6	sandy silt to clayey silt
3.74	15.58	0.1326	0.851	-2.977	6	6	sandy silt to clayey silt
3.81	14.77	0.1231	0.833	-3.071	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.87	13.16	0.1125	0.855	-3.071	5	6	sandy silt to clayey silt
3.94	11.38	0.1056	0.928	-3.065	4	6	sandy silt to clayey silt
4.00	9.69	0.1000	1.033	-3.030	5	5	clayey silt to silty clay
4.07	8.74	0.0919	1.051	-3.024	5	5	clayey silt to silty clay
4.13	8.17	0.0962	1.176	-2.993	4	5	clayey silt to silty clay
4.20	8.65	0.0869	1.006	-2.946	4	5	clayey silt to silty clay
4.27	9.35	0.0846	0.904	-2.921	4	5	clayey silt to silty clay
4.33	9.63	0.0746	0.775	-2.884	4	5	clayey silt to silty clay
4.40	9.17	0.0449	0.490	-2.862	4	5	clayey silt to silty clay
4.46	8.47	0.0491	0.580	-2.853	4	1	sensitive fine grained
4.53	7.60	0.0406	0.534	-2.806	4	1	sensitive fine grained
4.59	6.73	0.0659	0.979	-2.763	3	1	sensitive fine grained
4.66	6.09	0.0649	1.065	-2.669	3	1	sensitive fine grained
4.72	5.60	0.0507	0.904	-2.545	3	1	sensitive fine grained
4.79	5.13	0.0587	1.145	-2.442	2	1	sensitive fine grained
4.86	4.71	0.0530	1.125	-2.106	2	1	sensitive fine grained
4.92	4.13	0.0481	1.165	-1.730	2	1	sensitive fine grained
4.99	3.95	-0.0037	-0.095	-1.036	2	1	sensitive fine grained
5.05	4.06	0.0017	0.043	-0.271	2	1	sensitive fine grained
5.12	4.28	0.0198	0.463	0.289	2	1	sensitive fine grained
5.18	4.38	0.0175	0.398	0.610	2	1	sensitive fine grained
5.25	4.37	0.0311	0.713	0.874	2	1	sensitive fine grained
5.31	3.16	0.0420	1.327	4.303	2	1	sensitive fine grained
5.38	2.71	0.0667	2.459	4.110	2	1	sensitive fine grained
5.45	2.76	0.0898	3.256	3.895	3	3	clay
5.51	2.49	0.0817	3.284	3.817	2	3	clay
5.58	2.36	0.0679	2.877	3.811	2	3	clay
5.64	2.23	0.0576	2.582	3.758	2	3	clay
5.71	2.00	0.0690	3.454	3.765	2	3	clay
5.77	2.15	0.0753	3.503	3.873	2	3	clay
5.84	2.43	0.0805	3.313	4.020	2	3	clay
5.91	2.67	0.0813	3.050	4.228	2	3	clay
5.97	2.92	0.0917	3.146	4.328	3	3	clay
6.04	3.02	0.0875	2.894	4.247	3	3	clay
6.10	2.83	0.1062	3.753	4.468	3	3	clay
6.17	3.34	0.1249	3.740	4.458	4	3	clay
6.23	4.61	0.1277	2.769	4.564	5	3	clay
6.30	5.68	0.1464	2.579	4.825	6	3	clay
6.36	7.28	0.1725	2.370	4.835	5	4	silty clay to clay
6.43	8.77	0.1885	2.151	4.984	5	4	silty clay to clay
6.50	9.60	0.2165	2.257	5.034	6	4	silty clay to clay
6.56	10.19	0.2363	2.318	5.025	5	5	clayey silt to silty clay
6.63	11.15	0.2457	2.203	5.423	5	5	clayey silt to silty clay
6.69	11.89	0.2410	2.027	6.002	6	5	clayey silt to silty clay
6.76	12.81	0.2394	1.869	6.381	6	5	clayey silt to silty clay
6.82	12.64	0.2592	2.050	6.462	6	5	clayey silt to silty clay
6.89	12.59	0.2721	2.161	6.481	6	5	clayey silt to silty clay
6.96	12.85	0.2933	2.283	6.366	6	5	clayey silt to silty clay
7.02	12.30	0.3216	2.615	6.362	6	5	clayey silt to silty clay
7.09	11.99	0.3187	2.658	6.238	6	5	clayey silt to silty clay
7.15	11.45	0.3077	2.687	6.048	7	4	silty clay to clay
7.22	10.95	0.3015	2.753	6.054	7	4	silty clay to clay
7.28	10.72	0.2625	2.450	5.989	7	4	silty clay to clay
7.35	10.51	0.2589	2.464	6.039	7	4	silty clay to clay
7.41	10.32	0.2647	2.564	5.980	7	4	silty clay to clay
7.48	10.58	0.2945	2.784	5.983	7	4	silty clay to clay
7.55	11.35	0.3169	2.791	6.110	7	4	silty clay to clay
7.61	12.33	0.3039	2.464	6.412	8	4	silty clay to clay
7.68	12.79	0.3406	2.663	6.922	6	5	clayey silt to silty clay
7.74	12.97	0.3778	2.912	7.178	6	5	clayey silt to silty clay
7.81	14.14	0.3787	2.678	7.433	7	5	clayey silt to silty clay
7.87	14.76	0.3954	2.678	7.809	7	5	clayey silt to silty clay
7.94	15.09	0.4326	2.866	8.388	7	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
8.01	15.07	0.4529	3.005	8.889	7	5	clayey silt to silty clay
8.07	14.91	0.4342	2.913	9.166	7	5	clayey silt to silty clay
8.14	15.39	0.2834	1.841	9.965	7	5	clayey silt to silty clay
8.20	15.56	0.3388	2.177	10.650	7	5	clayey silt to silty clay
8.27	15.71	0.3907	2.487	11.216	8	5	clayey silt to silty clay
8.33	16.02	0.4420	2.760	11.667	8	5	clayey silt to silty clay
8.40	15.61	0.4837	3.099	12.460	8	5	clayey silt to silty clay
8.46	17.74	0.4987	2.811	21.380	8	5	clayey silt to silty clay
8.53	16.78	0.4874	2.905	23.826	8	5	clayey silt to silty clay
8.60	16.18	0.4661	2.881	24.603	8	5	clayey silt to silty clay
8.66	15.74	0.4507	2.863	26.044	8	5	clayey silt to silty clay
8.73	15.46	0.4203	2.718	27.733	8	5	clayey silt to silty clay
8.79	15.56	0.4164	2.676	29.584	10	4	silty clay to clay
8.86	16.00	0.5710	3.570	33.505	10	4	silty clay to clay
8.92	16.22	0.6055	3.732	36.650	10	4	silty clay to clay
8.99	16.55	0.6639	4.011	38.286	11	4	silty clay to clay
9.06	16.47	0.5875	3.566	39.444	11	4	silty clay to clay
9.12	15.82	0.6486	4.100	41.466	11	4	silty clay to clay
9.19	20.90	0.6213	2.973	10.889	9	5	clayey silt to silty clay
9.25	18.94	0.6167	3.256	10.746	9	5	clayey silt to silty clay
9.32	18.69	0.5034	2.694	11.595	9	5	clayey silt to silty clay
9.38	17.81	0.3664	2.057	11.972	8	5	clayey silt to silty clay
9.45	17.04	0.3290	1.931	12.320	8	5	clayey silt to silty clay
9.51	15.53	0.2782	1.791	13.033	7	5	clayey silt to silty clay
9.58	13.79	0.2496	1.810	14.293	7	5	clayey silt to silty clay
9.65	13.08	0.2586	1.977	16.959	7	5	clayey silt to silty clay
9.71	12.99	0.2406	1.853	23.922	6	5	clayey silt to silty clay
9.78	12.45	0.1983	1.593	35.328	6	5	clayey silt to silty clay
9.84	12.28	0.2146	1.748	47.720	6	5	clayey silt to silty clay
9.91	12.47	0.2419	1.940	53.385	6	5	clayey silt to silty clay
9.97	12.77	0.2855	2.236	53.174	6	5	clayey silt to silty clay
10.04	12.99	0.3035	2.335	53.130	6	5	clayey silt to silty clay
10.10	14.09	0.2810	1.995	52.691	7	5	clayey silt to silty clay
10.17	14.63	0.3515	2.402	51.506	7	5	clayey silt to silty clay
10.24	14.67	0.4030	2.748	50.685	7	5	clayey silt to silty clay
10.30	15.19	0.4785	3.150	49.897	7	5	clayey silt to silty clay
10.37	15.70	0.5396	3.438	49.213	8	5	clayey silt to silty clay
10.43	16.97	0.6182	3.644	49.061	8	5	clayey silt to silty clay
10.50	18.11	0.6394	3.530	47.514	9	5	clayey silt to silty clay
10.56	19.67	0.6602	3.356	43.915	9	5	clayey silt to silty clay
10.63	22.44	0.6498	2.896	41.021	10	5	clayey silt to silty clay
10.70	22.41	0.5728	2.556	37.842	10	5	clayey silt to silty clay
10.76	22.92	0.5397	2.354	35.433	11	5	clayey silt to silty clay
10.83	24.21	0.5221	2.157	33.352	9	6	sandy silt to clayey silt
10.89	23.62	0.4152	1.758	31.423	8	6	sandy silt to clayey silt
10.96	22.63	0.3226	1.426	29.762	8	6	sandy silt to clayey silt
11.02	21.14	0.2938	1.390	28.881	8	6	sandy silt to clayey silt
11.09	18.02	0.3123	1.733	28.461	7	6	sandy silt to clayey silt
11.15	16.96	0.2990	1.762	28.209	7	6	sandy silt to clayey silt
11.22	15.78	0.2401	1.522	28.166	8	5	clayey silt to silty clay
11.29	14.68	0.1994	1.358	28.247	7	5	clayey silt to silty clay
11.35	13.89	0.2601	1.872	28.352	7	5	clayey silt to silty clay
11.42	12.59	0.4453	3.538	28.489	8	4	silty clay to clay
11.48	11.66	0.5086	4.363	28.642	8	4	silty clay to clay
11.55	11.46	0.5554	4.846	29.043	12	3	clay
11.61	11.65	0.5542	4.756	30.232	13	3	clay
11.68	11.64	0.5545	4.765	25.599	13	3	clay
11.75	17.01	0.5919	3.480	24.980	13	3	clay
11.81	15.79	0.6691	4.236	24.837	14	3	clay
11.88	15.32	0.6474	4.225	24.756	10	4	silty clay to clay
11.94	15.00	0.5980	3.986	24.725	11	4	silty clay to clay
12.01	15.47	0.5790	3.743	24.787	11	4	silty clay to clay
12.07	16.89	0.5497	3.254	24.753	9	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
12.14	20.72	0.5719	2.759	24.697	10	5	clayey silt to silty clay
12.20	24.05	0.5779	2.403	24.603	10	5	clayey silt to silty clay
12.27	25.46	0.6169	2.423	24.386	11	5	clayey silt to silty clay
12.34	25.74	0.6650	2.584	24.121	12	5	clayey silt to silty clay
12.40	25.18	0.6802	2.701	23.602	12	5	clayey silt to silty clay
12.47	25.30	0.6807	2.691	22.678	12	5	clayey silt to silty clay
12.53	25.58	0.6147	2.403	22.226	10	6	sandy silt to clayey silt
12.60	25.55	0.5886	2.304	21.931	10	6	sandy silt to clayey silt
12.66	25.61	0.5769	2.253	21.704	10	6	sandy silt to clayey silt
12.73	26.77	0.5528	2.065	21.533	11	6	sandy silt to clayey silt
12.80	28.56	0.5022	1.758	21.427	11	6	sandy silt to clayey silt
12.86	30.62	0.5214	1.703	21.355	11	6	sandy silt to clayey silt
12.93	30.54	0.5119	1.676	21.318	11	6	sandy silt to clayey silt
12.99	29.44	0.4997	1.697	21.302	11	6	sandy silt to clayey silt
13.06	27.94	0.5030	1.800	21.256	11	6	sandy silt to clayey silt
13.12	26.73	0.4918	1.839	21.203	10	6	sandy silt to clayey silt
13.19	25.39	0.4191	1.651	21.175	10	6	sandy silt to clayey silt
13.25	23.68	0.3642	1.538	21.172	9	6	sandy silt to clayey silt
13.32	22.19	0.3272	1.475	21.153	9	6	sandy silt to clayey silt
13.39	20.61	0.3196	1.551	21.156	8	6	sandy silt to clayey silt
13.45	19.75	0.3230	1.635	21.134	7	6	sandy silt to clayey silt
13.52	17.04	0.2642	1.550	21.060	7	6	sandy silt to clayey silt
13.58	14.94	0.2646	1.771	21.057	7	5	clayey silt to silty clay
13.65	13.20	0.2441	1.849	21.050	7	5	clayey silt to silty clay
13.71	11.81	0.2490	2.109	21.159	6	5	clayey silt to silty clay
13.78	11.90	0.2891	2.429	21.106	6	5	clayey silt to silty clay
13.85	10.56	0.3166	2.999	21.278	7	4	silty clay to clay
13.91	11.79	0.3500	2.968	21.278	8	4	silty clay to clay
13.98	10.67	0.3751	3.515	21.340	8	4	silty clay to clay
14.04	12.05	0.4202	3.488	21.368	8	4	silty clay to clay
14.11	14.12	0.3907	2.768	21.315	7	5	clayey silt to silty clay
14.17	15.42	0.3479	2.256	21.302	7	5	clayey silt to silty clay
14.24	17.00	0.3677	2.163	21.240	8	5	clayey silt to silty clay
14.30	16.97	0.3497	2.061	21.072	9	5	clayey silt to silty clay
14.37	19.71	0.4124	2.092	20.994	8	6	sandy silt to clayey silt
14.44	22.07	0.4222	1.913	21.007	8	6	sandy silt to clayey silt
14.50	23.74	0.4188	1.764	21.022	8	6	sandy silt to clayey silt
14.57	24.24	0.4871	2.010	20.867	9	6	sandy silt to clayey silt
14.63	22.99	0.3514	1.528	20.851	9	6	sandy silt to clayey silt
14.70	22.80	0.4002	1.755	20.836	8	6	sandy silt to clayey silt
14.76	21.80	0.4583	2.102	20.833	10	5	clayey silt to silty clay
14.83	18.68	0.5736	3.071	20.724	9	5	clayey silt to silty clay
14.90	17.85	0.6057	3.393	19.666	9	5	clayey silt to silty clay
14.96	17.79	0.6055	3.403	19.591	11	4	silty clay to clay
15.03	15.58	0.5667	3.637	19.520	11	4	silty clay to clay
15.09	15.65	0.6950	4.441	19.476	15	3	clay
15.16	16.91	0.8218	4.859	19.395	14	3	clay
15.22	15.97	0.8298	5.194	19.345	13	3	clay
15.29	12.76	0.6720	5.266	19.314	13	3	clay
15.35	11.05	0.5790	5.238	19.321	12	3	clay
15.42	10.47	0.4293	4.099	19.268	10	3	clay
15.49	9.81	0.3006	3.064	19.196	9	3	clay
15.55	8.62	0.2443	2.836	19.199	8	3	clay
15.62	7.08	0.2098	2.962	19.143	7	3	clay
15.68	5.48	0.1745	3.185	19.078	6	3	clay
15.75	4.89	0.1431	2.924	19.156	6	3	clay
15.81	5.15	0.1677	3.256	19.181	6	3	clay
15.88	4.95	0.2970	6.002	19.103	8	3	clay
15.94	5.42	0.4579	8.445	19.037	10	3	clay
16.01	13.00	0.5790	4.454	19.121	8	4	silty clay to clay
16.08	20.01	0.5787	2.892	19.100	9	4	silty clay to clay
16.14	20.07	0.4516	2.250	19.062	7	5	clayey silt to silty clay
16.21	18.39	0.3449	1.876	19.069	8	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
16.27	16.22	0.2858	1.762	19.003	8	5	clayey silt to silty clay
16.34	14.09	0.3333	2.365	18.953	7	5	clayey silt to silty clay
16.40	12.23	0.3959	3.237	18.972	7	5	clayey silt to silty clay
16.47	11.59	0.3561	3.073	18.957	7	5	clayey silt to silty clay
16.54	12.69	0.2983	2.352	18.910	7	5	clayey silt to silty clay
16.60	13.77	0.2225	1.617	18.916	7	5	clayey silt to silty clay
16.67	15.45	0.1534	0.993	18.919	6	6	sandy silt to clayey silt
16.73	18.63	0.1386	0.744	18.894	6	6	sandy silt to clayey silt
16.80	19.41	0.1348	0.695	18.866	6	6	sandy silt to clayey silt
16.86	18.58	0.1738	0.936	18.863	7	6	sandy silt to clayey silt
16.93	16.88	0.2498	1.479	18.838	7	6	sandy silt to clayey silt
16.99	15.33	0.2591	1.690	18.832	7	6	sandy silt to clayey silt
17.06	15.09	0.2354	1.560	18.838	7	6	sandy silt to clayey silt
17.13	16.32	0.1612	0.987	18.857	8	6	sandy silt to clayey silt
17.19	21.37	0.1569	0.734	18.820	9	6	sandy silt to clayey silt
17.26	27.74	0.1859	0.670	18.817	8	7	silty sand to sandy silt
17.32	31.89	0.1943	0.609	18.807	9	7	silty sand to sandy silt
17.39	34.74	0.2337	0.673	18.773	10	7	silty sand to sandy silt
17.45	36.34	0.3189	0.877	18.838	11	7	silty sand to sandy silt
17.52	37.62	0.3999	1.063	18.807	11	7	silty sand to sandy silt
17.59	37.38	0.4389	1.174	18.804	11	7	silty sand to sandy silt
17.65	36.16	0.4453	1.231	18.813	11	7	silty sand to sandy silt
17.72	34.83	0.4405	1.265	18.748	11	7	silty sand to sandy silt
17.78	33.37	0.4406	1.320	18.720	11	7	silty sand to sandy silt
17.85	32.18	0.3854	1.198	18.695	10	7	silty sand to sandy silt
17.91	31.38	0.3481	1.109	18.757	10	7	silty sand to sandy silt
17.98	31.18	0.3566	1.143	18.801	12	6	sandy silt to clayey silt
18.04	30.63	0.3885	1.269	18.841	12	6	sandy silt to clayey silt
18.11	30.08	0.4049	1.346	18.860	11	6	sandy silt to clayey silt
18.18	29.29	0.4287	1.464	17.833	11	6	sandy silt to clayey silt
18.24	28.85	0.4389	1.521	17.805	11	6	sandy silt to clayey silt
18.31	28.38	0.4529	1.596	17.809	11	6	sandy silt to clayey silt
18.37	27.75	0.4250	1.532	17.793	11	6	sandy silt to clayey silt
18.44	27.09	0.3787	1.398	17.771	11	6	sandy silt to clayey silt
18.50	26.87	0.3347	1.246	17.777	10	6	sandy silt to clayey silt
18.57	26.85	0.3366	1.254	17.765	10	6	sandy silt to clayey silt
18.64	26.24	0.3896	1.485	17.790	10	6	sandy silt to clayey silt
18.70	24.66	0.3921	1.590	17.759	9	6	sandy silt to clayey silt
18.77	22.17	0.3689	1.664	17.746	9	6	sandy silt to clayey silt
18.83	20.88	0.2916	1.396	17.805	9	6	sandy silt to clayey silt
18.90	21.91	0.2372	1.083	17.802	9	6	sandy silt to clayey silt
18.96	24.83	0.2674	1.077	17.777	9	6	sandy silt to clayey silt
19.03	26.06	0.2853	1.095	17.777	9	6	sandy silt to clayey silt
19.09	26.48	0.3019	1.140	17.706	10	6	sandy silt to clayey silt
19.16	26.62	0.3226	1.212	17.693	10	6	sandy silt to clayey silt
19.23	26.85	0.3353	1.249	17.725	10	6	sandy silt to clayey silt
19.29	27.44	0.3515	1.281	17.697	10	6	sandy silt to clayey silt
19.36	28.23	0.3699	1.310	17.662	10	6	sandy silt to clayey silt
19.42	28.02	0.3633	1.296	17.693	10	6	sandy silt to clayey silt
19.49	27.54	0.3784	1.374	17.693	10	6	sandy silt to clayey silt
19.55	26.88	0.4101	1.526	17.693	10	6	sandy silt to clayey silt
19.62	25.97	0.3973	1.530	17.725	11	6	sandy silt to clayey silt
19.69	26.04	0.3262	1.252	17.706	11	6	sandy silt to clayey silt
19.75	27.58	0.3014	1.093	17.684	11	6	sandy silt to clayey silt
19.82	31.21	0.3042	0.975	17.712	10	7	silty sand to sandy silt
19.88	32.54	0.3187	0.979	17.725	10	7	silty sand to sandy silt
19.95	32.76	0.3283	1.002	17.709	10	7	silty sand to sandy silt
20.01	32.69	0.3507	1.073	17.712	11	7	silty sand to sandy silt
20.08	32.61	0.3843	1.178	17.675	11	7	silty sand to sandy silt
20.14	33.98	0.4657	1.371	17.628	11	7	silty sand to sandy silt
20.21	36.43	0.5002	1.373	17.625	11	7	silty sand to sandy silt
20.28	38.24	0.5370	1.404	17.684	12	7	silty sand to sandy silt
20.34	38.87	0.5760	1.482	17.665	12	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
20.41	38.14	0.5906	1.549	17.703	14	6	sandy silt to clayey silt
20.47	36.83	0.6021	1.635	17.700	14	6	sandy silt to clayey silt
20.54	35.56	0.6140	1.727	17.675	14	6	sandy silt to clayey silt
20.60	34.35	0.5802	1.689	17.597	13	6	sandy silt to clayey silt
20.67	32.78	0.5071	1.547	17.603	13	6	sandy silt to clayey silt
20.73	32.46	0.4691	1.445	17.665	12	6	sandy silt to clayey silt
20.80	32.63	0.5522	1.692	17.681	11	6	sandy silt to clayey silt
20.87	30.51	0.5902	1.934	17.721	10	6	sandy silt to clayey silt
20.93	25.43	0.5451	2.143	17.697	9	6	sandy silt to clayey silt
21.00	19.78	0.4147	2.097	17.715	10	5	clayey silt to silty clay
21.06	15.57	0.5875	3.773	17.712	9	5	clayey silt to silty clay
21.13	12.70	0.5203	4.099	17.675	10	4	silty clay to clay
21.19	11.26	0.5105	4.534	17.793	9	4	silty clay to clay
21.26	10.10	0.3694	3.657	17.852	9	4	silty clay to clay
21.33	10.21	0.3037	2.974	18.176	7	5	clayey silt to silty clay
21.39	16.30	0.2899	1.779	21.713	7	5	clayey silt to silty clay
21.46	17.71	0.3312	1.870	19.921	7	5	clayey silt to silty clay
21.52	16.98	0.3154	1.858	18.894	7	5	clayey silt to silty clay
21.59	16.27	0.2716	1.669	18.608	6	6	sandy silt to clayey silt
21.65	15.33	0.2640	1.723	18.375	6	6	sandy silt to clayey silt
21.72	14.41	0.1466	1.018	18.331	7	6	sandy silt to clayey silt
21.78	14.73	0.1333	0.905	18.446	8	6	sandy silt to clayey silt
21.85	20.60	0.2144	1.041	18.617	9	6	sandy silt to clayey silt
21.92	28.30	0.2611	0.923	18.471	10	6	sandy silt to clayey silt
21.98	32.40	0.3335	1.029	18.194	11	6	sandy silt to clayey silt
22.05	34.23	0.4101	1.198	18.188	12	6	sandy silt to clayey silt
22.11	34.38	0.4572	1.330	18.132	12	6	sandy silt to clayey silt
22.18	33.23	0.4439	1.336	17.998	12	6	sandy silt to clayey silt
22.24	31.21	0.4887	1.566	17.942	11	6	sandy silt to clayey silt
22.31	27.58	0.5105	1.851	17.896	11	6	sandy silt to clayey silt
22.38	24.02	0.4218	1.756	17.933	11	6	sandy silt to clayey silt
22.44	22.37	0.3117	1.394	18.070	11	6	sandy silt to clayey silt
22.51	24.58	0.2442	0.993	18.431	9	7	silty sand to sandy silt
22.57	31.78	0.2705	0.851	18.901	10	7	silty sand to sandy silt
22.64	37.82	0.3077	0.814	18.761	10	7	silty sand to sandy silt
22.70	37.41	0.2468	0.660	18.658	10	7	silty sand to sandy silt
22.77	31.67	0.1842	0.582	18.711	10	7	silty sand to sandy silt
22.83	27.30	0.1459	0.534	18.742	9	7	silty sand to sandy silt
22.90	23.78	0.0916	0.385	18.602	9	6	sandy silt to clayey silt
22.97	19.18	0.1290	0.673	18.558	8	6	sandy silt to clayey silt
23.03	15.77	0.2379	1.509	18.863	7	6	sandy silt to clayey silt
23.10	13.78	0.3818	2.769	19.093	8	6	sandy silt to clayey silt
23.16	12.59	0.4275	3.395	21.184	10	6	sandy silt to clayey silt
23.23	23.31	0.3220	1.381	24.326	9	7	silty sand to sandy silt
23.29	39.14	0.2352	0.601	23.085	10	7	silty sand to sandy silt
23.36	50.08	0.2326	0.464	20.929	11	7	silty sand to sandy silt
23.43	42.05	0.2584	0.614	18.033	11	7	silty sand to sandy silt
23.49	35.26	0.2229	0.632	16.116	12	7	silty sand to sandy silt
23.56	29.95	0.1678	0.560	15.926	11	7	silty sand to sandy silt
23.62	28.62	0.2266	0.792	16.041	10	7	silty sand to sandy silt
23.69	29.90	0.3093	1.034	16.141	9	7	silty sand to sandy silt
23.75	28.29	0.3542	1.252	16.222	9	7	silty sand to sandy silt
23.82	25.15	0.2634	1.048	16.331	8	7	silty sand to sandy silt
23.88	23.14	0.2135	0.923	16.670	9	6	sandy silt to clayey silt
23.95	22.87	0.1549	0.677	18.807	9	6	sandy silt to clayey silt
24.02	21.59	0.0878	0.407	21.925	8	6	sandy silt to clayey silt
24.08	19.92	0.0882	0.443	22.569	7	6	sandy silt to clayey silt
24.15	17.00	0.1049	0.617	22.954	7	6	sandy silt to clayey silt
24.21	14.79	0.0929	0.628	22.640	7	6	sandy silt to clayey silt
24.28	13.14	0.2450	1.865	24.376	7	6	sandy silt to clayey silt
24.34	14.50	0.1934	1.334	32.017	7	6	sandy silt to clayey silt
24.41	20.03	0.2694	1.345	34.248	8	6	sandy silt to clayey silt
24.48	25.25	0.3398	1.346	24.196	9	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
24.54	25.81	0.4209	1.631	19.980	9	6	sandy silt to clayey silt
24.61	28.24	0.4198	1.486	16.984	11	6	sandy silt to clayey silt
24.67	29.00	0.3379	1.165	16.928	10	7	silty sand to sandy silt
24.74	30.56	0.2698	0.883	16.944	12	7	silty sand to sandy silt
24.80	37.71	0.2564	0.680	17.065	13	7	silty sand to sandy silt
24.87	49.44	0.3384	0.685	17.109	15	7	silty sand to sandy silt
24.93	57.62	0.5083	0.882	16.959	17	7	silty sand to sandy silt
25.00	62.92	0.5457	0.867	17.040	20	7	silty sand to sandy silt
25.07	67.78	0.6371	0.940	16.891	22	7	silty sand to sandy silt
25.13	73.42	0.9009	1.227	16.956	24	7	silty sand to sandy silt
25.20	81.71	1.0575	1.294	16.875	26	7	silty sand to sandy silt
25.26	88.71	1.2257	1.382	17.018	28	7	silty sand to sandy silt
25.33	93.77	1.3538	1.444	16.975	30	7	silty sand to sandy silt
25.39	98.11	1.5619	1.592	17.028	31	7	silty sand to sandy silt
25.46	102.91	1.7323	1.683	17.015	33	7	silty sand to sandy silt
25.52	109.16	1.8840	1.726	17.003	36	7	silty sand to sandy silt
25.59	116.39	1.9651	1.688	17.081	38	7	silty sand to sandy silt
25.66	125.26	2.2464	1.793	17.255	31	8	sand to silty sand
25.72	135.56	2.2102	1.630	17.211	33	8	sand to silty sand
25.79	147.07	2.0357	1.384	17.339	37	8	sand to silty sand
25.85	161.43	1.8024	1.117	17.438	40	8	sand to silty sand
25.92	178.89	1.9119	1.069	17.609	42	8	sand to silty sand
25.98	204.89	2.0081	0.980	17.718	35	9	sand
26.05	212.45	2.1468	1.011	17.787	44	8	sand to silty sand
26.12	198.87	2.4071	1.210	17.799	43	8	sand to silty sand
26.18	186.13	2.7640	1.485	17.812	41	8	sand to silty sand
26.25	152.06	2.9345	1.930	17.712	36	8	sand to silty sand
26.31	126.60	3.1342	2.476	17.469	42	7	silty sand to sandy silt
26.38	103.74	2.6380	2.543	17.255	35	7	silty sand to sandy silt
26.44	80.00	2.1440	2.680	16.959	36	6	sandy silt to clayey silt
26.51	63.57	1.9290	3.035	16.760	32	6	sandy silt to clayey silt
26.57	64.69	1.8140	2.804	16.651	30	6	sandy silt to clayey silt
26.64	68.84	1.8271	2.654	16.856	29	6	sandy silt to clayey silt
26.71	77.76	2.0101	2.585	16.978	25	7	silty sand to sandy silt
26.77	88.72	1.5220	1.716	17.130	27	7	silty sand to sandy silt
26.84	93.02	1.5759	1.694	17.295	28	7	silty sand to sandy silt
26.90	94.06	1.6149	1.717	17.392	29	7	silty sand to sandy silt
26.97	94.38	1.6739	1.774	17.435	0	0	<out of range>
27.03	90.60	1.6471	1.818	17.323	0	0	<out of range>
27.10	93.75	1.4852	1.584	17.479	26	8	sand to silty sand
27.17	98.59	-32768	-32768	17.441	0	0	<out of range>
27.23	107.00	-32768	-32768	17.410	0	0	<out of range>
27.30	115.18	-32768	-32768	17.501	0	0	<out of range>
27.36	126.93	-32768	-32768	17.404	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

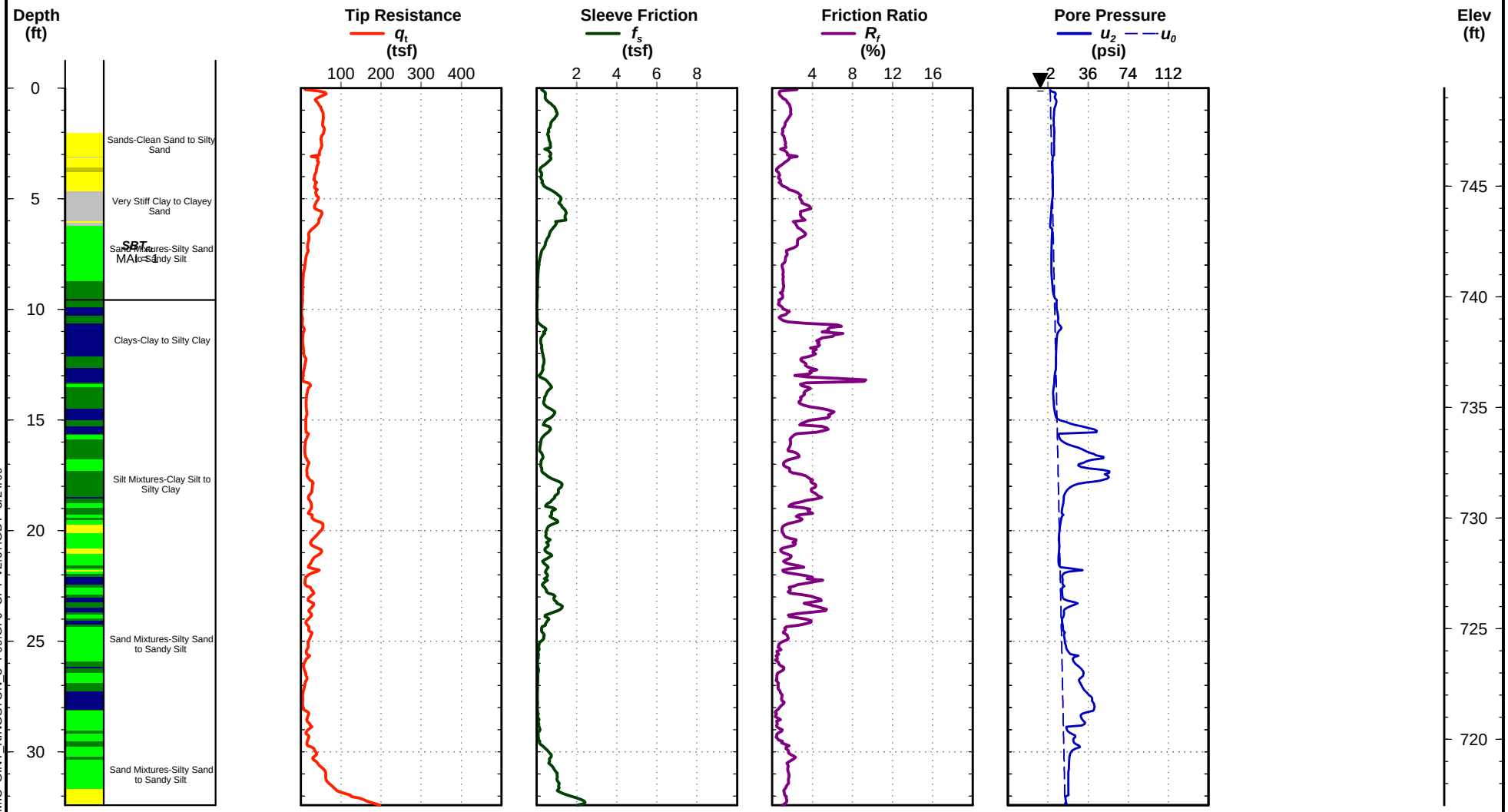
09-210-C1

Project No: 60095742

Date: Jan. 20, 2009
Estimated Water Depth: 0 ft
Rig/Operator: CME-850 CAP

Northing: 557280.23
Easting: 2441760.51
Elevation: 749.43 NGVD

Total Depth: 32.4 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

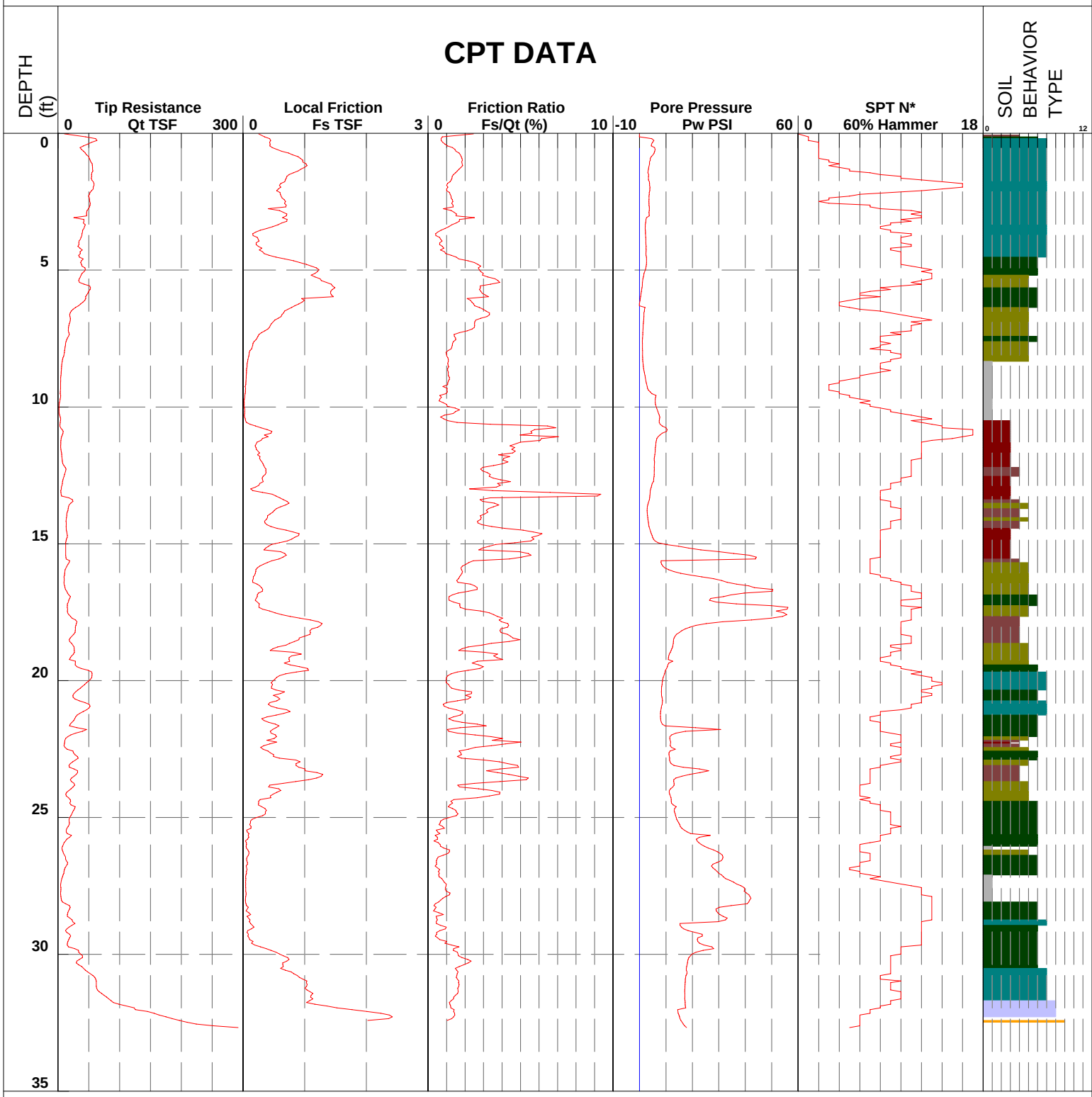
09-210-C1

Electronic Filename: 09-210-C1.cpt

AECOM

09-210-C1	60095742	1/20/2009 9:29:57 AM
DTA1081	TVA-Kingston	CAP CME-750
557,280.23N	2,441,760.51E	Elev. 749.43 ft

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-210-C1 1/20/2009 9:29:57 AM
Operator:CAP CME-750 Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	10.35	0.2544	2.458	0.012	7	4	silty clay to clay
0.13	45.11	0.3488	0.773	-0.075	11	6	sandy silt to clayey silt
0.20	60.99	0.4311	0.707	4.611	13	7	silty sand to sandy silt
0.26	63.29	0.4481	0.708	5.445	15	7	silty sand to sandy silt
0.33	54.49	0.4320	0.793	4.978	16	7	silty sand to sandy silt
0.39	48.21	0.4390	0.911	4.530	16	7	silty sand to sandy silt
0.46	41.40	0.4364	1.054	4.424	15	7	silty sand to sandy silt
0.52	35.92	0.4748	1.322	5.678	14	7	silty sand to sandy silt
0.59	37.93	0.5502	1.451	5.899	13	7	silty sand to sandy silt
0.66	41.49	0.6252	1.507	5.771	14	7	silty sand to sandy silt
0.72	44.21	0.7396	1.673	5.510	14	7	silty sand to sandy silt
0.79	46.20	0.8063	1.745	5.087	15	7	silty sand to sandy silt
0.85	49.92	0.8942	1.791	4.452	15	7	silty sand to sandy silt
0.92	50.65	0.9299	1.836	4.066	16	7	silty sand to sandy silt
0.98	52.21	0.9687	1.855	4.073	17	7	silty sand to sandy silt
1.05	53.39	0.9701	1.817	3.761	17	7	silty sand to sandy silt
1.12	55.41	1.0220	1.844	3.789	17	7	silty sand to sandy silt
1.18	55.59	1.0387	1.868	3.640	18	7	silty sand to sandy silt
1.25	56.10	0.9973	1.778	3.485	18	7	silty sand to sandy silt
1.31	56.07	0.9395	1.675	3.369	18	7	silty sand to sandy silt
1.38	56.68	0.8947	1.578	3.273	18	7	silty sand to sandy silt
1.44	55.04	0.8173	1.485	3.186	18	7	silty sand to sandy silt
1.51	54.37	0.7480	1.376	3.466	18	7	silty sand to sandy silt
1.57	54.61	0.7120	1.304	3.404	18	7	silty sand to sandy silt
1.64	54.14	0.7001	1.293	3.360	18	7	silty sand to sandy silt
1.71	54.86	0.6879	1.254	3.366	18	7	silty sand to sandy silt
1.77	57.10	0.6776	1.187	3.709	18	7	silty sand to sandy silt
1.84	58.51	0.6121	1.046	3.805	18	7	silty sand to sandy silt
1.90	58.59	0.5890	1.005	3.824	18	7	silty sand to sandy silt
1.97	57.11	0.6123	1.072	3.936	18	7	silty sand to sandy silt
2.03	57.22	0.5739	1.003	3.914	18	7	silty sand to sandy silt
2.10	54.45	0.5461	1.003	3.886	17	7	silty sand to sandy silt
2.17	51.88	0.6001	1.157	3.674	17	7	silty sand to sandy silt
2.23	50.80	0.6067	1.194	3.699	17	7	silty sand to sandy silt
2.30	49.64	0.6171	1.243	3.631	16	7	silty sand to sandy silt
2.36	50.76	0.6343	1.250	3.615	16	7	silty sand to sandy silt
2.43	51.07	0.6700	1.312	3.612	16	7	silty sand to sandy silt
2.49	51.48	0.6897	1.340	3.550	16	7	silty sand to sandy silt
2.56	52.41	0.6731	1.284	3.578	16	7	silty sand to sandy silt
2.62	51.91	0.6993	1.347	3.618	16	7	silty sand to sandy silt
2.69	51.15	0.6954	1.360	3.687	16	7	silty sand to sandy silt
2.76	49.43	0.4086	0.827	3.709	16	7	silty sand to sandy silt
2.82	47.17	0.5900	1.251	3.677	15	7	silty sand to sandy silt
2.89	46.45	0.6515	1.402	3.587	14	7	silty sand to sandy silt
2.95	46.25	0.7120	1.539	3.643	14	7	silty sand to sandy silt
3.02	46.68	0.7030	1.506	3.702	14	7	silty sand to sandy silt
3.08	25.67	0.6423	2.502	2.641	13	7	silty sand to sandy silt
3.15	42.17	0.7149	1.695	2.445	13	7	silty sand to sandy silt
3.22	42.17	0.7100	1.684	2.383	13	7	silty sand to sandy silt
3.28	41.22	0.6261	1.519	2.284	13	7	silty sand to sandy silt
3.35	44.32	0.5670	1.279	2.200	13	7	silty sand to sandy silt
3.41	43.04	0.4840	1.125	2.197	13	7	silty sand to sandy silt
3.48	42.08	0.3885	0.923	2.144	13	7	silty sand to sandy silt
3.54	40.03	0.2803	0.700	2.218	13	7	silty sand to sandy silt
3.61	39.71	0.2062	0.519	2.259	13	7	silty sand to sandy silt
3.67	38.93	0.1587	0.408	2.268	12	7	silty sand to sandy silt
3.74	38.69	0.1631	0.422	2.305	12	7	silty sand to sandy silt
3.81	37.24	0.2317	0.622	2.377	12	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.87	36.27	0.2458	0.678	2.396	12	7	silty sand to sandy silt
3.94	34.24	0.2582	0.754	2.393	11	7	silty sand to sandy silt
4.00	33.88	0.2134	0.630	2.414	11	7	silty sand to sandy silt
4.07	34.01	0.2123	0.624	2.452	11	7	silty sand to sandy silt
4.13	32.29	0.2488	0.771	2.489	11	7	silty sand to sandy silt
4.20	35.69	0.3051	0.855	2.473	11	7	silty sand to sandy silt
4.27	39.34	0.2654	0.675	2.489	11	7	silty sand to sandy silt
4.33	35.80	0.3192	0.892	2.470	11	7	silty sand to sandy silt
4.40	36.12	0.3445	0.954	2.445	12	7	silty sand to sandy silt
4.46	33.56	0.4219	1.257	2.464	12	7	silty sand to sandy silt
4.53	34.85	0.5329	1.529	2.607	14	6	sandy silt to clayey silt
4.59	40.95	0.6800	1.661	2.654	14	6	sandy silt to clayey silt
4.66	38.01	0.8195	2.156	2.638	14	6	sandy silt to clayey silt
4.72	36.77	0.9223	2.508	2.645	15	6	sandy silt to clayey silt
4.79	38.19	1.0270	2.689	2.626	15	6	sandy silt to clayey silt
4.86	38.90	1.1077	2.848	2.526	15	6	sandy silt to clayey silt
4.92	43.88	1.1916	2.716	2.399	16	6	sandy silt to clayey silt
4.99	44.45	1.2303	2.768	2.221	16	6	sandy silt to clayey silt
5.05	42.42	1.2076	2.847	1.976	15	6	sandy silt to clayey silt
5.12	39.24	1.1699	2.982	1.730	15	6	sandy silt to clayey silt
5.18	37.55	1.1059	2.945	1.608	18	5	clayey silt to silty clay
5.25	36.22	1.1688	3.227	1.450	18	5	clayey silt to silty clay
5.31	34.49	1.2492	3.621	1.291	18	5	clayey silt to silty clay
5.38	33.62	1.2710	3.781	1.188	19	5	clayey silt to silty clay
5.45	34.96	1.3537	3.872	1.129	20	5	clayey silt to silty clay
5.51	42.44	1.4318	3.373	1.070	21	5	clayey silt to silty clay
5.58	51.41	1.4501	2.821	1.083	22	5	clayey silt to silty clay
5.64	52.75	1.4921	2.828	0.918	18	6	sandy silt to clayey silt
5.71	52.00	1.4467	2.782	0.793	19	6	sandy silt to clayey silt
5.77	49.83	1.4228	2.855	0.706	19	6	sandy silt to clayey silt
5.84	48.62	1.4196	2.920	0.616	19	6	sandy silt to clayey silt
5.91	46.38	1.4355	3.095	0.510	18	6	sandy silt to clayey silt
5.97	44.89	1.4668	3.268	0.417	17	6	sandy silt to clayey silt
6.04	45.00	0.9509	2.113	0.299	17	6	sandy silt to clayey silt
6.10	43.55	0.9968	2.289	0.221	16	6	sandy silt to clayey silt
6.17	40.40	0.9565	2.367	0.065	15	6	sandy silt to clayey silt
6.23	36.77	0.9058	2.463	-0.019	14	6	sandy silt to clayey silt
6.30	33.28	0.8378	2.518	-0.075	12	6	sandy silt to clayey silt
6.36	28.44	0.7893	2.776	2.109	14	5	clayey silt to silty clay
6.43	24.40	0.7274	2.982	1.917	13	5	clayey silt to silty clay
6.50	21.45	0.6729	3.137	1.820	11	5	clayey silt to silty clay
6.56	19.84	0.6591	3.321	1.702	10	5	clayey silt to silty clay
6.63	18.99	0.6306	3.320	1.674	10	5	clayey silt to silty clay
6.69	19.44	0.6191	3.184	1.640	10	5	clayey silt to silty clay
6.76	20.05	0.5727	2.857	1.624	9	5	clayey silt to silty clay
6.82	20.08	0.5183	2.581	1.577	9	5	clayey silt to silty clay
6.89	19.41	0.4896	2.522	1.515	9	5	clayey silt to silty clay
6.96	18.44	0.4630	2.511	1.478	9	5	clayey silt to silty clay
7.02	17.58	0.4428	2.519	1.369	9	5	clayey silt to silty clay
7.09	17.10	0.4286	2.507	1.369	8	5	clayey silt to silty clay
7.15	16.91	0.4034	2.386	1.338	8	5	clayey silt to silty clay
7.22	16.78	0.3552	2.117	1.288	8	5	clayey silt to silty clay
7.28	17.68	0.2998	1.696	1.248	8	5	clayey silt to silty clay
7.35	18.32	0.2586	1.411	1.229	8	5	clayey silt to silty clay
7.41	17.16	0.2435	1.419	1.195	6	6	sandy silt to clayey silt
7.48	15.37	0.2285	1.487	1.142	6	6	sandy silt to clayey silt
7.55	14.11	0.2102	1.490	1.117	6	6	sandy silt to clayey silt
7.61	13.08	0.1788	1.366	1.092	7	5	clayey silt to silty clay
7.68	12.29	0.1624	1.322	1.114	6	5	clayey silt to silty clay
7.74	12.04	0.1573	1.307	1.098	6	5	clayey silt to silty clay
7.81	11.67	0.1500	1.285	1.098	6	5	clayey silt to silty clay
7.87	11.19	0.1403	1.253	1.117	5	5	clayey silt to silty clay
7.94	10.68	0.1154	1.080	1.142	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
8.01	10.48	0.1010	0.964	1.145	5	5	clayey silt to silty clay
8.07	9.98	0.0993	0.995	1.160	5	5	clayey silt to silty clay
8.14	9.41	0.0952	1.011	1.160	4	5	clayey silt to silty clay
8.20	8.16	0.0875	1.073	1.179	4	5	clayey silt to silty clay
8.27	7.35	0.0802	1.091	1.195	4	5	clayey silt to silty clay
8.33	6.89	0.0759	1.100	1.238	3	1	sensitive fine grained
8.40	6.48	0.0691	1.066	1.316	3	1	sensitive fine grained
8.46	6.12	0.0658	1.075	1.397	3	1	sensitive fine grained
8.53	5.83	0.0651	1.116	1.456	3	1	sensitive fine grained
8.60	5.68	0.0601	1.057	1.546	3	1	sensitive fine grained
8.66	5.51	0.0582	1.056	1.652	3	1	sensitive fine grained
8.73	5.26	0.0574	1.092	1.798	2	1	sensitive fine grained
8.79	5.03	0.0546	1.087	1.951	2	1	sensitive fine grained
8.86	4.71	0.0519	1.102	2.081	2	1	sensitive fine grained
8.92	4.47	0.0516	1.154	2.178	2	1	sensitive fine grained
8.99	4.38	0.0505	1.151	2.318	2	1	sensitive fine grained
9.06	4.37	0.0480	1.099	2.436	2	1	sensitive fine grained
9.12	4.35	0.0462	1.062	2.582	2	1	sensitive fine grained
9.19	4.34	0.0458	1.055	2.729	2	1	sensitive fine grained
9.25	4.28	0.0343	0.802	2.897	2	1	sensitive fine grained
9.32	4.13	0.0427	1.034	3.058	2	1	sensitive fine grained
9.38	3.91	0.0399	1.021	3.382	2	1	sensitive fine grained
9.45	3.76	0.0391	1.041	4.073	2	1	sensitive fine grained
9.51	3.62	0.0349	0.963	4.636	2	1	sensitive fine grained
9.58	4.49	0.0286	0.637	6.263	2	1	sensitive fine grained
9.65	4.13	0.0298	0.721	6.076	2	1	sensitive fine grained
9.71	3.59	0.0229	0.639	5.974	2	1	sensitive fine grained
9.78	3.05	0.0182	0.595	5.949	1	1	sensitive fine grained
9.84	2.40	0.0197	0.818	5.949	1	1	sensitive fine grained
9.91	1.99	0.0200	1.006	6.042	1	1	sensitive fine grained
9.97	1.81	0.0188	1.038	6.269	1	1	sensitive fine grained
10.04	1.73	0.0253	1.464	6.487	1	1	sensitive fine grained
10.10	1.69	0.0287	1.696	6.720	1	1	sensitive fine grained
10.17	1.86	0.0275	1.476	6.966	1	1	sensitive fine grained
10.24	2.03	0.0276	1.360	7.181	1	1	sensitive fine grained
10.30	2.70	0.0237	0.877	7.482	1	1	sensitive fine grained
10.37	3.74	0.0254	0.679	7.682	2	1	sensitive fine grained
10.43	4.40	0.0370	0.841	7.573	2	1	sensitive fine grained
10.50	3.93	0.0415	1.057	7.458	3	3	clay
10.56	3.72	0.0584	1.570	7.473	4	3	clay
10.63	3.42	0.1147	3.359	7.784	4	3	clay
10.70	3.14	0.2028	6.466	8.565	5	3	clay
10.76	4.21	0.2907	6.907	9.981	5	3	clay
10.83	6.80	0.3922	5.764	10.432	6	3	clay
10.89	8.43	0.4684	5.558	10.276	6	3	clay
10.96	8.05	0.4523	5.619	8.578	6	3	clay
11.02	7.00	0.3483	4.972	7.722	6	3	clay
11.09	5.78	0.4072	7.046	7.038	6	3	clay
11.15	5.12	0.3136	6.129	6.540	5	3	clay
11.22	4.82	0.2918	6.053	6.362	5	3	clay
11.29	4.57	0.2284	4.993	6.257	5	3	clay
11.35	4.53	0.2134	4.716	6.191	4	3	clay
11.42	4.48	0.1982	4.427	6.101	4	3	clay
11.48	4.49	0.2102	4.681	6.014	5	3	clay
11.55	4.81	0.2175	4.522	5.946	5	3	clay
11.61	5.18	0.2442	4.715	5.946	5	3	clay
11.68	5.85	0.2678	4.577	5.862	5	3	clay
11.75	6.20	0.2363	3.810	5.781	6	3	clay
11.81	6.23	0.2751	4.412	5.694	6	3	clay
11.88	6.60	0.2702	4.091	5.597	6	3	clay
11.94	7.00	0.2836	4.050	5.581	7	3	clay
12.01	7.13	0.3082	4.322	5.678	8	3	clay
12.07	8.02	0.3234	4.032	5.647	9	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
12.14	9.49	0.3368	3.548	5.625	9	3	clay
12.20	11.85	0.3504	2.958	5.581	7	4	silty clay to clay
12.27	13.10	0.3725	2.844	5.616	7	4	silty clay to clay
12.34	12.58	0.3700	2.941	5.578	7	4	silty clay to clay
12.40	11.65	0.3736	3.206	5.585	7	4	silty clay to clay
12.47	10.73	0.3611	3.367	5.588	7	4	silty clay to clay
12.53	9.89	0.3260	3.297	5.507	9	3	clay
12.60	8.83	0.3106	3.518	5.385	9	3	clay
12.66	8.06	0.3166	3.928	5.348	8	3	clay
12.73	7.38	0.3286	4.455	5.252	7	3	clay
12.80	7.27	0.2730	3.754	4.797	7	3	clay
12.86	6.57	0.2566	3.908	4.617	6	3	clay
12.93	5.49	0.2031	3.702	4.430	6	3	clay
12.99	5.58	0.1250	2.241	4.228	5	3	clay
13.06	4.56	0.1592	3.488	4.079	5	3	clay
13.12	4.77	0.3144	6.593	4.041	7	3	clay
13.19	5.08	0.4746	9.340	3.957	9	3	clay
13.25	5.86	0.5364	9.148	3.898	12	3	clay
13.32	17.79	0.5967	3.353	3.861	14	3	clay
13.39	23.31	0.6551	2.811	3.705	11	4	silty clay to clay
13.45	24.21	0.7144	2.950	3.497	12	4	silty clay to clay
13.52	20.81	0.7470	3.590	3.289	9	5	clayey silt to silty clay
13.58	18.09	0.6908	3.818	3.124	9	5	clayey silt to silty clay
13.65	17.23	0.6078	3.527	2.974	9	5	clayey silt to silty clay
13.71	16.61	0.5419	3.263	2.903	11	4	silty clay to clay
13.78	16.18	0.5090	3.145	2.881	10	4	silty clay to clay
13.85	14.96	0.4837	3.234	2.890	10	4	silty clay to clay
13.91	14.40	0.4396	3.054	2.943	9	4	silty clay to clay
13.98	14.19	0.4005	2.822	3.055	9	4	silty clay to clay
14.04	13.82	0.3976	2.876	3.111	7	5	clayey silt to silty clay
14.11	13.32	0.3785	2.842	3.201	7	5	clayey silt to silty clay
14.17	13.03	0.3485	2.674	3.298	9	4	silty clay to clay
14.24	13.26	0.3571	2.692	3.391	9	4	silty clay to clay
14.30	13.32	0.3885	2.917	3.485	8	4	silty clay to clay
14.37	13.16	0.4527	3.441	3.587	9	4	silty clay to clay
14.44	13.31	0.5510	4.141	3.805	13	3	clay
14.50	13.63	0.6998	5.133	3.992	13	3	clay
14.57	14.30	0.8128	5.686	4.213	14	3	clay
14.63	14.77	0.9093	6.158	4.443	14	3	clay
14.70	15.16	0.9026	5.954	4.745	14	3	clay
14.76	14.94	0.8372	5.603	4.972	13	3	clay
14.83	13.82	0.7902	5.715	5.267	13	3	clay
14.90	12.95	0.7194	5.554	5.865	13	3	clay
14.96	12.59	0.5914	4.698	7.050	13	3	clay
15.03	12.60	0.4614	3.662	9.866	12	3	clay
15.09	12.51	0.4135	3.304	14.847	12	3	clay
15.16	12.52	0.3675	2.936	18.586	12	3	clay
15.22	12.39	0.3398	2.743	23.213	12	3	clay
15.29	12.39	0.6113	4.935	30.113	12	3	clay
15.35	12.53	0.6783	5.413	35.676	12	3	clay
15.42	12.61	0.7024	5.570	41.531	13	3	clay
15.49	12.80	0.6474	5.058	44.182	14	3	clay
15.55	13.25	0.5843	4.410	43.856	10	4	silty clay to clay
15.62	19.11	0.4667	2.442	8.201	10	4	silty clay to clay
15.68	17.90	0.3930	2.196	8.145	7	5	clayey silt to silty clay
15.75	16.21	0.3311	2.042	8.413	7	5	clayey silt to silty clay
15.81	14.63	0.2711	1.853	8.836	7	5	clayey silt to silty clay
15.88	13.05	0.2321	1.779	9.583	7	5	clayey silt to silty clay
15.94	11.56	0.2090	1.807	11.060	6	5	clayey silt to silty clay
16.01	11.15	0.2079	1.865	12.946	6	5	clayey silt to silty clay
16.08	10.86	0.1987	1.829	15.587	5	5	clayey silt to silty clay
16.14	10.70	0.1898	1.774	19.286	5	5	clayey silt to silty clay
16.21	9.86	0.1671	1.696	23.642	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
16.27	10.13	0.1669	1.648	27.995	5	5	clayey silt to silty clay
16.34	10.04	0.1551	1.545	31.059	5	5	clayey silt to silty clay
16.40	9.85	0.1585	1.609	33.113	5	5	clayey silt to silty clay
16.47	10.03	0.2304	2.298	36.715	5	5	clayey silt to silty clay
16.54	10.82	0.2722	2.517	41.317	5	5	clayey silt to silty clay
16.60	11.31	0.3004	2.657	43.476	6	5	clayey silt to silty clay
16.67	12.04	0.3195	2.652	50.433	6	5	clayey silt to silty clay
16.73	14.32	0.3118	2.178	50.255	7	5	clayey silt to silty clay
16.80	15.52	0.2504	1.613	39.568	8	5	clayey silt to silty clay
16.86	17.60	0.2311	1.313	34.556	6	6	sandy silt to clayey silt
16.93	20.25	0.2312	1.141	31.781	7	6	sandy silt to clayey silt
16.99	18.97	0.2129	1.122	26.980	7	6	sandy silt to clayey silt
17.06	17.48	0.1988	1.137	26.442	7	6	sandy silt to clayey silt
17.13	16.91	0.2314	1.369	28.996	7	6	sandy silt to clayey silt
17.19	15.38	0.2647	1.721	36.594	6	6	sandy silt to clayey silt
17.26	15.11	0.2592	1.716	49.854	8	5	clayey silt to silty clay
17.32	14.95	0.2601	1.739	56.142	7	5	clayey silt to silty clay
17.39	15.66	0.3185	2.034	55.821	7	5	clayey silt to silty clay
17.45	15.22	0.4319	2.838	51.767	8	5	clayey silt to silty clay
17.52	15.67	0.5196	3.317	54.521	8	5	clayey silt to silty clay
17.59	17.66	0.6274	3.551	55.659	9	5	clayey silt to silty clay
17.65	20.39	0.7650	3.751	54.085	14	4	silty clay to clay
17.72	22.86	0.9211	4.030	49.826	15	4	silty clay to clay
17.78	28.47	1.0935	3.841	42.356	16	4	silty clay to clay
17.85	30.90	1.2255	3.966	31.426	17	4	silty clay to clay
17.91	29.74	1.2815	4.310	25.247	18	4	silty clay to clay
17.98	28.89	1.2587	4.356	21.281	18	4	silty clay to clay
18.04	28.25	1.2132	4.294	19.034	18	4	silty clay to clay
18.11	28.38	1.1126	3.920	17.280	18	4	silty clay to clay
18.18	27.86	1.0843	3.892	15.929	17	4	silty clay to clay
18.24	27.72	1.0937	3.946	15.049	16	4	silty clay to clay
18.31	25.33	1.0874	4.293	13.969	15	4	silty clay to clay
18.37	22.45	0.9999	4.454	13.437	15	4	silty clay to clay
18.44	19.83	0.9107	4.593	13.086	14	4	silty clay to clay
18.50	18.31	0.9067	4.953	12.865	14	4	silty clay to clay
18.57	19.05	0.8344	4.381	12.793	14	4	silty clay to clay
18.64	22.09	0.7548	3.416	12.759	11	5	clayey silt to silty clay
18.70	24.06	0.6984	2.903	12.666	11	5	clayey silt to silty clay
18.77	26.02	0.5629	2.164	12.510	12	5	clayey silt to silty clay
18.83	26.39	0.4841	1.835	12.215	12	5	clayey silt to silty clay
18.90	26.54	0.4404	1.659	11.981	12	5	clayey silt to silty clay
18.96	26.69	0.8167	3.060	11.648	12	5	clayey silt to silty clay
19.03	25.17	0.9455	3.756	11.256	11	5	clayey silt to silty clay
19.09	22.16	0.7876	3.554	11.057	11	5	clayey silt to silty clay
19.16	20.06	0.7475	3.726	10.923	12	5	clayey silt to silty clay
19.23	18.49	0.7470	4.039	10.911	12	5	clayey silt to silty clay
19.29	28.41	0.7579	2.668	12.547	12	5	clayey silt to silty clay
19.36	28.10	0.6696	2.383	11.067	13	5	clayey silt to silty clay
19.42	27.92	0.7632	2.733	10.709	12	6	sandy silt to clayey silt
19.49	30.66	0.9156	2.986	10.550	14	6	sandy silt to clayey silt
19.55	37.49	1.0479	2.795	10.273	15	6	sandy silt to clayey silt
19.62	49.05	1.0609	2.163	9.794	17	6	sandy silt to clayey silt
19.69	54.64	0.8635	1.580	9.657	15	7	silty sand to sandy silt
19.75	55.32	0.6903	1.248	9.489	16	7	silty sand to sandy silt
19.82	55.19	0.5921	1.073	9.225	17	7	silty sand to sandy silt
19.88	54.66	0.5431	0.994	8.979	17	7	silty sand to sandy silt
19.95	52.64	0.5171	0.982	8.792	16	7	silty sand to sandy silt
20.01	49.56	0.4817	0.972	8.674	16	7	silty sand to sandy silt
20.08	46.17	0.4574	0.991	8.574	15	7	silty sand to sandy silt
20.14	43.24	0.4809	1.112	8.503	14	7	silty sand to sandy silt
20.21	39.58	0.4637	1.172	8.419	13	7	silty sand to sandy silt
20.28	36.10	0.4628	1.282	8.326	11	7	silty sand to sandy silt
20.34	32.11	0.5367	1.671	8.291	13	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
20.41	28.65	0.6756	2.358	8.266	12	6	sandy silt to clayey silt
20.47	25.89	0.6095	2.354	8.294	11	6	sandy silt to clayey silt
20.54	24.23	0.4931	2.035	8.344	11	6	sandy silt to clayey silt
20.60	24.40	0.5632	2.308	8.462	11	6	sandy silt to clayey silt
20.67	27.62	0.5967	2.161	8.618	13	6	sandy silt to clayey silt
20.73	34.64	0.5498	1.587	8.680	12	7	silty sand to sandy silt
20.80	43.72	0.4339	0.993	8.630	13	7	silty sand to sandy silt
20.87	50.53	0.4126	0.817	8.590	14	7	silty sand to sandy silt
20.93	52.10	0.4523	0.868	8.338	15	7	silty sand to sandy silt
21.00	50.37	0.5495	1.091	8.214	15	7	silty sand to sandy silt
21.06	46.56	0.7090	1.523	8.064	14	7	silty sand to sandy silt
21.13	40.74	0.7625	1.871	7.990	13	7	silty sand to sandy silt
21.19	35.28	0.6598	1.870	7.949	12	7	silty sand to sandy silt
21.26	31.11	0.5397	1.735	7.940	13	6	sandy silt to clayey silt
21.33	28.69	0.3912	1.363	7.946	12	6	sandy silt to clayey silt
21.39	27.32	0.3039	1.112	7.962	10	6	sandy silt to clayey silt
21.46	25.53	0.3433	1.345	8.033	10	6	sandy silt to clayey silt
21.52	22.72	0.4173	1.837	8.251	9	6	sandy silt to clayey silt
21.59	19.74	0.5250	2.660	8.612	10	6	sandy silt to clayey silt
21.65	18.64	0.5855	3.142	9.667	11	6	sandy silt to clayey silt
21.72	31.00	0.5346	1.724	21.246	11	6	sandy silt to clayey silt
21.78	46.24	0.4802	1.038	30.701	11	6	sandy silt to clayey silt
21.85	39.62	0.4425	1.117	17.379	11	6	sandy silt to clayey silt
21.92	28.68	0.4545	1.585	13.783	11	6	sandy silt to clayey silt
21.98	20.77	0.5276	2.540	12.134	10	6	sandy silt to clayey silt
22.05	15.91	0.5417	3.405	11.474	10	5	clayey silt to silty clay
22.11	12.57	0.5058	4.024	11.440	8	5	clayey silt to silty clay
22.18	11.19	0.3887	3.473	11.577	8	4	silty clay to clay
22.24	10.84	0.5450	5.026	11.798	11	3	clay
22.31	10.44	0.4368	4.185	11.704	7	4	silty clay to clay
22.38	9.87	0.3372	3.417	11.620	8	4	silty clay to clay
22.44	11.29	0.2878	2.549	12.081	7	5	clayey silt to silty clay
22.51	14.93	0.3260	2.183	13.565	8	5	clayey silt to silty clay
22.57	24.14	0.4040	1.674	11.592	8	6	sandy silt to clayey silt
22.64	25.13	0.4438	1.766	11.166	9	6	sandy silt to clayey silt
22.70	27.52	0.4964	1.804	11.147	10	6	sandy silt to clayey silt
22.77	31.34	0.4944	1.578	11.269	11	6	sandy silt to clayey silt
22.83	32.59	0.5881	1.805	11.390	10	6	sandy silt to clayey silt
22.90	28.43	0.8562	3.012	11.375	12	5	clayey silt to silty clay
22.97	23.93	0.9246	3.863	11.574	12	5	clayey silt to silty clay
23.03	20.01	0.8605	4.301	11.947	11	5	clayey silt to silty clay
23.10	17.83	0.8613	4.830	13.042	15	4	silty clay to clay
23.16	18.50	0.9058	4.896	16.530	15	4	silty clay to clay
23.23	25.87	1.0083	3.898	22.653	16	4	silty clay to clay
23.29	31.76	1.0064	3.168	26.171	17	4	silty clay to clay
23.36	31.92	1.1985	3.755	22.917	17	4	silty clay to clay
23.43	29.60	1.2926	4.368	19.013	17	4	silty clay to clay
23.49	25.98	1.2701	4.888	16.066	17	4	silty clay to clay
23.56	22.07	1.1945	5.412	13.752	16	4	silty clay to clay
23.62	20.02	1.0634	5.311	12.936	16	4	silty clay to clay
23.69	21.88	0.8538	3.902	12.943	11	5	clayey silt to silty clay
23.75	25.99	0.6506	2.503	13.095	11	5	clayey silt to silty clay
23.82	26.99	0.4327	1.603	13.092	11	5	clayey silt to silty clay
23.88	24.53	0.4166	1.698	12.631	10	5	clayey silt to silty clay
23.95	21.20	0.5801	2.737	11.748	10	5	clayey silt to silty clay
24.02	17.77	0.6131	3.451	11.263	9	5	clayey silt to silty clay
24.08	14.15	0.5502	3.889	11.216	8	5	clayey silt to silty clay
24.15	12.66	0.4895	3.867	11.412	8	5	clayey silt to silty clay
24.21	13.37	0.4436	3.317	11.661	8	5	clayey silt to silty clay
24.28	16.94	0.4497	2.654	11.900	8	5	clayey silt to silty clay
24.34	19.92	0.2781	1.396	11.997	8	5	clayey silt to silty clay
24.41	20.59	0.2538	1.233	12.019	8	6	sandy silt to clayey silt
24.48	19.20	0.2547	1.327	12.068	8	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
24.54	21.09	0.2486	1.179	12.740	9	6	sandy silt to clayey silt
24.61	27.86	0.3025	1.086	13.895	9	6	sandy silt to clayey silt
24.67	26.95	0.3569	1.324	13.291	9	6	sandy silt to clayey silt
24.74	25.26	0.3796	1.503	13.120	9	6	sandy silt to clayey silt
24.80	23.69	0.3628	1.532	13.263	9	6	sandy silt to clayey silt
24.87	22.49	0.3642	1.620	13.512	9	6	sandy silt to clayey silt
24.93	20.98	0.3195	1.523	13.636	8	6	sandy silt to clayey silt
25.00	19.06	0.2200	1.154	13.857	8	6	sandy silt to clayey silt
25.07	18.02	0.1493	0.829	14.044	7	6	sandy silt to clayey silt
25.13	18.05	0.1229	0.681	14.448	7	6	sandy silt to clayey silt
25.20	18.60	0.1215	0.653	14.837	7	6	sandy silt to clayey silt
25.26	18.22	0.1081	0.593	15.217	6	6	sandy silt to clayey silt
25.33	16.59	0.1299	0.783	15.432	6	6	sandy silt to clayey silt
25.39	14.58	0.1281	0.879	15.988	6	6	sandy silt to clayey silt
25.46	13.55	0.0606	0.447	16.909	6	6	sandy silt to clayey silt
25.52	13.40	0.0684	0.510	18.029	6	6	sandy silt to clayey silt
25.59	15.03	0.0965	0.642	19.321	6	6	sandy silt to clayey silt
25.66	21.93	0.0843	0.384	26.772	6	6	sandy silt to clayey silt
25.72	18.79	0.0942	0.501	22.702	6	6	sandy silt to clayey silt
25.79	14.38	0.0737	0.513	21.530	6	6	sandy silt to clayey silt
25.85	12.27	0.0391	0.319	21.766	5	6	sandy silt to clayey silt
25.92	10.00	0.0550	0.550	22.410	4	6	sandy silt to clayey silt
25.98	8.84	0.0572	0.647	23.287	4	6	sandy silt to clayey silt
26.05	7.38	0.0501	0.680	24.538	4	1	sensitive fine grained
26.12	6.43	0.0548	0.853	26.022	4	1	sensitive fine grained
26.18	6.89	0.0794	1.153	27.988	4	5	clayey silt to silty clay
26.25	8.09	0.0939	1.161	29.401	4	5	clayey silt to silty clay
26.31	9.09	0.0976	1.074	30.527	4	5	clayey silt to silty clay
26.38	10.76	0.0874	0.812	31.333	4	6	sandy silt to clayey silt
26.44	12.18	0.0658	0.540	31.554	4	6	sandy silt to clayey silt
26.51	12.29	0.0604	0.492	31.398	5	6	sandy silt to clayey silt
26.57	13.46	0.0614	0.456	30.907	5	6	sandy silt to clayey silt
26.64	15.70	0.0715	0.456	29.326	5	6	sandy silt to clayey silt
26.71	15.40	0.0712	0.463	27.767	5	6	sandy silt to clayey silt
26.77	13.50	0.0519	0.385	27.248	5	6	sandy silt to clayey silt
26.84	11.67	0.0590	0.505	27.749	5	6	sandy silt to clayey silt
26.90	10.43	0.0653	0.626	28.604	4	6	sandy silt to clayey silt
26.97	9.74	0.0548	0.562	29.348	4	6	sandy silt to clayey silt
27.03	9.43	0.0570	0.604	29.942	3	6	sandy silt to clayey silt
27.10	8.26	0.0476	0.576	31.019	4	1	sensitive fine grained
27.17	7.30	0.0436	0.597	31.737	4	1	sensitive fine grained
27.23	6.29	0.0465	0.739	32.525	3	1	sensitive fine grained
27.30	5.55	0.0452	0.814	34.208	3	1	sensitive fine grained
27.36	4.89	0.0428	0.875	35.620	3	1	sensitive fine grained
27.43	4.47	0.0441	0.987	36.731	2	1	sensitive fine grained
27.49	4.36	0.0426	0.976	38.370	2	1	sensitive fine grained
27.56	4.67	0.0440	0.942	39.509	2	1	sensitive fine grained
27.62	4.73	0.0439	0.928	39.805	2	1	sensitive fine grained
27.69	4.56	0.0447	0.982	39.546	2	1	sensitive fine grained
27.76	4.21	0.0499	1.188	40.427	2	1	sensitive fine grained
27.82	4.41	0.0508	1.154	41.382	2	1	sensitive fine grained
27.89	4.68	0.0447	0.956	41.762	2	1	sensitive fine grained
27.95	5.27	0.0418	0.794	42.135	3	1	sensitive fine grained
28.02	5.70	0.0389	0.681	41.634	4	1	sensitive fine grained
28.08	7.16	0.0409	0.571	41.345	4	6	sandy silt to clayey silt
28.15	12.43	0.0479	0.386	40.726	5	6	sandy silt to clayey silt
28.22	18.57	0.0586	0.316	34.668	5	6	sandy silt to clayey silt
28.28	19.91	0.0873	0.439	30.163	6	6	sandy silt to clayey silt
28.35	18.69	0.0690	0.369	28.903	6	6	sandy silt to clayey silt
28.41	17.17	0.0511	0.298	29.056	7	6	sandy silt to clayey silt
28.48	15.97	0.0928	0.581	29.588	7	6	sandy silt to clayey silt
28.54	15.12	0.1257	0.831	30.409	7	6	sandy silt to clayey silt
28.61	15.37	0.0668	0.434	31.576	7	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
28.67	19.08	0.0890	0.467	33.137	8	6	sandy silt to clayey silt
28.74	23.02	0.1147	0.498	32.568	7	7	silty sand to sandy silt
28.81	23.70	0.1045	0.441	29.805	7	7	silty sand to sandy silt
28.87	27.52	0.1236	0.449	15.288	7	7	silty sand to sandy silt
28.94	22.69	0.1518	0.669	15.323	8	6	sandy silt to clayey silt
29.00	18.13	0.1788	0.987	15.883	7	6	sandy silt to clayey silt
29.07	14.54	0.1370	0.943	16.692	7	6	sandy silt to clayey silt
29.13	12.11	0.0770	0.636	18.409	7	6	sandy silt to clayey silt
29.20	14.47	0.0670	0.463	21.035	6	6	sandy silt to clayey silt
29.27	19.04	0.0882	0.463	23.701	6	6	sandy silt to clayey silt
29.33	20.50	0.0800	0.390	23.745	6	6	sandy silt to clayey silt
29.40	18.73	0.0974	0.520	22.043	7	6	sandy silt to clayey silt
29.46	17.48	0.1094	0.626	21.862	7	6	sandy silt to clayey silt
29.53	16.06	0.1625	1.012	22.046	7	6	sandy silt to clayey silt
29.59	15.31	0.1395	0.911	22.684	7	6	sandy silt to clayey silt
29.66	14.97	0.1900	1.269	24.342	8	6	sandy silt to clayey silt
29.72	17.01	0.2844	1.672	27.413	9	6	sandy silt to clayey silt
29.79	27.27	0.3770	1.383	28.066	10	6	sandy silt to clayey silt
29.86	33.19	0.4518	1.361	24.053	11	6	sandy silt to clayey silt
29.92	33.74	0.5350	1.586	21.374	12	6	sandy silt to clayey silt
29.99	36.40	0.5897	1.620	19.927	13	6	sandy silt to clayey silt
30.05	39.87	0.6555	1.644	19.249	14	6	sandy silt to clayey silt
30.12	39.52	0.7262	1.838	18.655	13	6	sandy silt to clayey silt
30.18	34.78	0.7452	2.143	18.390	13	6	sandy silt to clayey silt
30.25	30.51	0.7104	2.328	18.222	13	6	sandy silt to clayey silt
30.31	29.74	0.6433	2.163	18.107	14	6	sandy silt to clayey silt
30.38	33.47	0.6464	1.931	18.011	14	6	sandy silt to clayey silt
30.45	38.68	0.6528	1.687	17.837	15	6	sandy silt to clayey silt
30.51	41.56	0.6111	1.470	17.684	13	7	silty sand to sandy silt
30.58	44.45	0.6867	1.545	17.700	14	7	silty sand to sandy silt
30.64	48.11	0.7809	1.623	17.977	16	7	silty sand to sandy silt
30.71	52.41	0.8231	1.571	17.896	17	7	silty sand to sandy silt
30.77	56.66	0.8801	1.553	17.591	18	7	silty sand to sandy silt
30.84	59.78	0.9138	1.529	17.435	18	7	silty sand to sandy silt
30.91	61.30	0.9729	1.587	17.348	19	7	silty sand to sandy silt
30.97	62.25	1.0350	1.663	17.308	19	7	silty sand to sandy silt
31.04	62.24	1.0276	1.651	17.270	20	7	silty sand to sandy silt
31.10	62.17	1.0401	1.673	17.227	20	7	silty sand to sandy silt
31.17	62.16	1.0316	1.660	17.180	20	7	silty sand to sandy silt
31.23	62.60	1.0040	1.604	17.202	21	7	silty sand to sandy silt
31.30	64.08	1.0370	1.618	17.109	21	7	silty sand to sandy silt
31.36	66.88	1.0881	1.627	17.137	22	7	silty sand to sandy silt
31.43	70.73	1.1320	1.600	17.140	23	7	silty sand to sandy silt
31.50	74.65	1.1054	1.481	17.165	24	7	silty sand to sandy silt
31.56	78.98	1.0968	1.389	17.171	25	7	silty sand to sandy silt
31.63	82.49	1.1337	1.374	17.118	27	7	silty sand to sandy silt
31.69	86.23	1.0793	1.252	17.230	21	8	sand to silty sand
31.76	89.85	1.0323	1.149	17.252	23	8	sand to silty sand
31.82	98.84	1.1639	1.178	17.264	25	8	sand to silty sand
31.89	111.25	1.3607	1.223	17.295	27	8	sand to silty sand
31.96	123.52	1.5228	1.233	17.479	29	8	sand to silty sand
32.02	125.44	1.7691	1.410	14.448	32	8	sand to silty sand
32.09	145.31	2.0081	1.382	14.511	34	8	sand to silty sand
32.15	155.89	2.2349	1.434	14.613	37	8	sand to silty sand
32.22	163.85	2.3709	1.447	14.915	39	8	sand to silty sand
32.28	175.02	2.4207	1.383	15.114	0	0	<out of range>
32.35	185.19	2.3607	1.275	15.298	0	0	<out of range>
32.41	196.85	2.0214	1.027	15.646	45	9	sand
32.48	209.29	-32768	-32768	16.113	0	0	<out of range>
32.55	224.33	-32768	-32768	16.555	0	0	<out of range>
32.61	251.37	-32768	-32768	17.037	0	0	<out of range>
32.68	292.23	-32768	-32768	17.787	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

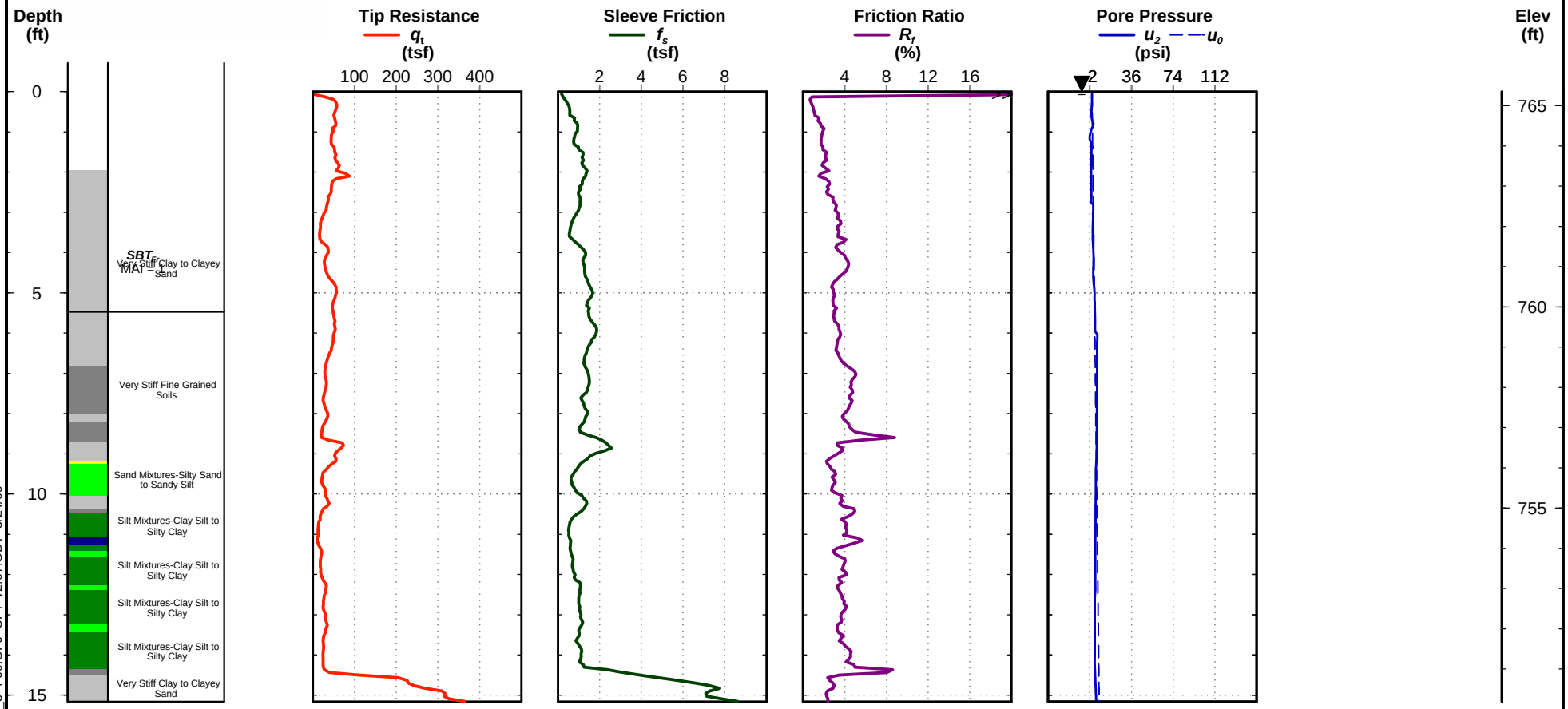
09-211-C1

Project No: 60095742

Date: Feb. 19, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 557060.12
Easting: 2441959.73
Elevation: 765.35 NGVD

Total Depth: 15.2 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



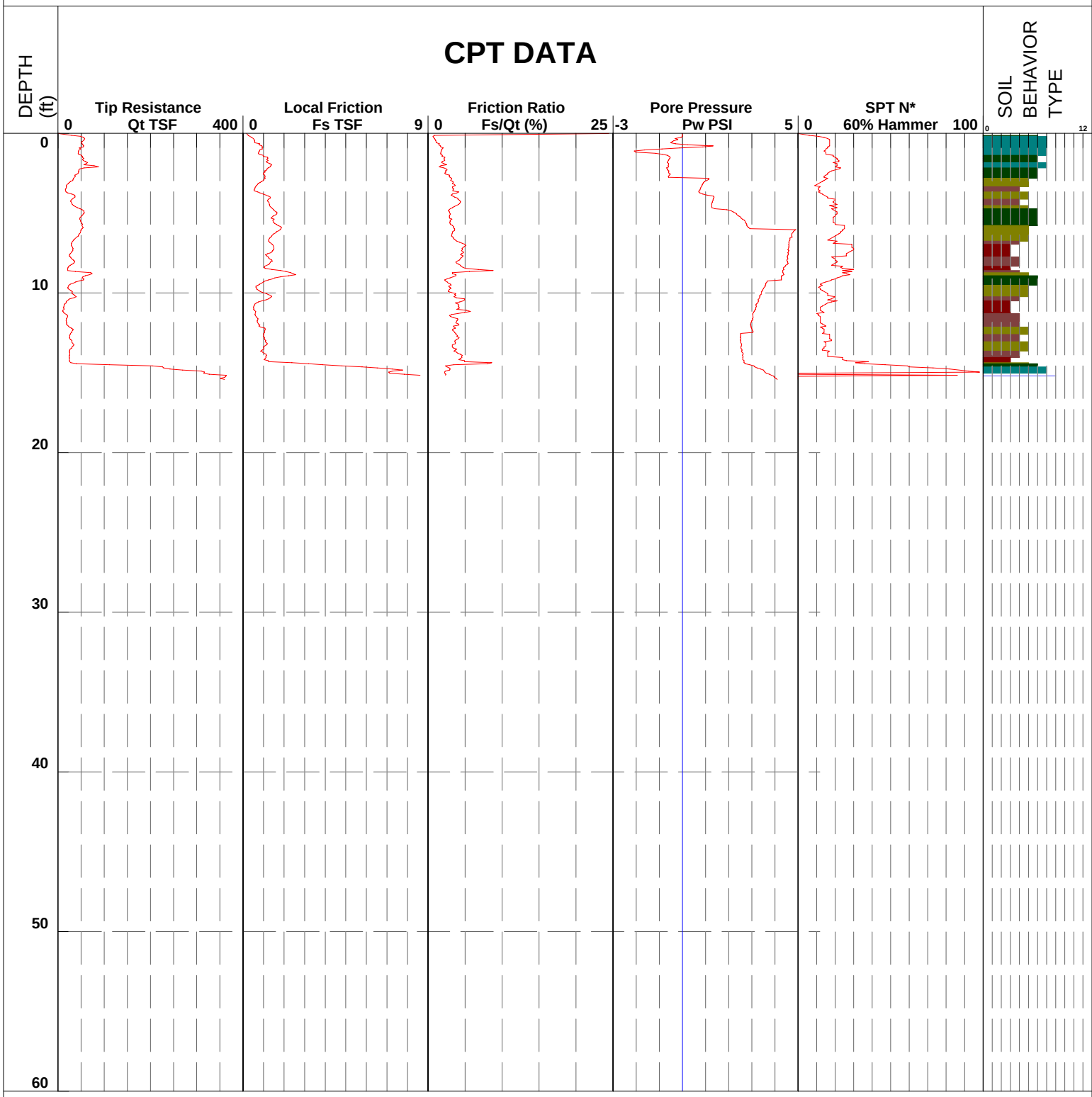
CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

09-211-C1

Electronic Filename: 09-211-C1.cpt

AECOM

09-211-C1	60095742	2/19/2009 8:22:11 AM
DTA1081	TVA-Kingston	Mobile 57/CAP



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-211-C1 2/19/2009 8:22:11 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:English

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.7	0.180	24.424	-0.02	0	0	<out of range>
0.13	29.7	0.253	0.850	0.00	6	6	sandy silt to clayey silt
0.20	49.7	0.338	0.680	-0.01	11	7	silty sand to sandy silt
0.26	55.3	0.419	0.757	-0.06	14	7	silty sand to sandy silt
0.33	57.5	0.502	0.873	-0.32	16	7	silty sand to sandy silt
0.39	56.9	0.546	0.960	-0.20	17	7	silty sand to sandy silt
0.46	54.8	0.566	1.032	-0.37	17	7	silty sand to sandy silt
0.52	52.1	0.568	1.090	-0.45	17	7	silty sand to sandy silt
0.59	50.3	0.573	1.139	-0.52	17	7	silty sand to sandy silt
0.66	52.3	0.804	1.536	-0.31	17	7	silty sand to sandy silt
0.72	54.0	0.779	1.443	0.23	17	7	silty sand to sandy silt
0.79	55.5	0.921	1.659	1.33	17	7	silty sand to sandy silt
0.85	54.9	0.948	1.726	0.87	16	7	silty sand to sandy silt
0.92	46.0	0.935	2.030	-0.12	16	7	silty sand to sandy silt
0.98	49.5	0.938	1.895	-0.89	15	7	silty sand to sandy silt
1.05	45.3	0.822	1.815	-1.64	15	7	silty sand to sandy silt
1.12	44.5	0.797	1.791	-2.08	14	7	silty sand to sandy silt
1.18	44.1	0.760	1.724	-2.03	15	7	silty sand to sandy silt
1.25	43.5	0.748	1.717	-1.18	15	7	silty sand to sandy silt
1.31	44.9	0.777	1.728	-0.87	15	7	silty sand to sandy silt
1.38	50.9	0.982	1.930	-0.65	19	6	sandy silt to clayey silt
1.44	52.5	0.999	1.903	-0.58	19	6	sandy silt to clayey silt
1.51	53.1	1.203	2.267	-0.53	20	6	sandy silt to clayey silt
1.57	55.6	1.209	2.174	-0.55	21	6	sandy silt to clayey silt
1.64	53.0	1.155	2.179	-0.59	21	6	sandy silt to clayey silt
1.71	54.6	1.231	2.254	-0.61	22	6	sandy silt to clayey silt
1.77	59.5	1.140	1.917	-0.64	22	6	sandy silt to clayey silt
1.84	63.9	1.179	1.845	-0.66	19	7	silty sand to sandy silt
1.90	60.8	1.315	2.164	-0.59	21	7	silty sand to sandy silt
1.97	55.9	1.400	2.504	-0.60	21	7	silty sand to sandy silt
2.03	78.2	1.352	1.729	-0.62	21	7	silty sand to sandy silt
2.10	87.6	1.324	1.511	-0.59	20	7	silty sand to sandy silt
2.17	56.6	1.216	2.147	-0.69	23	6	sandy silt to clayey silt
2.23	47.3	1.167	2.469	-0.65	22	6	sandy silt to clayey silt
2.30	45.2	1.163	2.571	-0.65	20	6	sandy silt to clayey silt
2.36	44.8	1.040	2.323	-0.58	18	6	sandy silt to clayey silt
2.43	44.5	1.083	2.435	-0.61	17	6	sandy silt to clayey silt
2.49	44.0	0.989	2.245	-0.58	16	6	sandy silt to clayey silt
2.56	41.3	0.985	2.385	-0.52	16	6	sandy silt to clayey silt
2.62	36.5	1.053	2.883	-0.56	15	6	sandy silt to clayey silt
2.69	37.6	1.073	2.856	-0.61	14	6	sandy silt to clayey silt
2.76	35.6	1.060	2.979	-0.60	14	6	sandy silt to clayey silt
2.82	33.5	1.076	3.209	1.14	16	5	clayey silt to silty clay
2.89	32.5	1.021	3.141	1.14	15	5	clayey silt to silty clay
2.95	32.2	0.987	3.071	1.05	14	5	clayey silt to silty clay
3.02	27.1	0.907	3.351	0.96	13	5	clayey silt to silty clay
3.08	24.4	0.828	3.391	0.91	12	5	clayey silt to silty clay
3.15	22.3	0.735	3.295	0.89	11	5	clayey silt to silty clay
3.22	19.6	0.706	3.605	0.86	10	5	clayey silt to silty clay
3.28	18.0	0.656	3.646	0.85	9	5	clayey silt to silty clay
3.35	18.4	0.611	3.320	0.81	12	4	silty clay to clay
3.41	17.8	0.589	3.310	0.79	11	4	silty clay to clay
3.48	16.5	0.573	3.476	0.77	11	4	silty clay to clay
3.54	16.0	0.541	3.375	0.76	11	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	16.6	0.558	3.364	0.71	12	4	silty clay to clay
3.67	17.3	0.717	4.139	0.70	11	5	clayey silt to silty clay
3.74	21.5	0.835	3.888	0.76	12	5	clayey silt to silty clay
3.81	30.1	0.984	3.273	0.88	13	5	clayey silt to silty clay
3.87	35.8	1.119	3.125	1.06	14	5	clayey silt to silty clay
3.94	37.0	1.239	3.348	1.34	15	5	clayey silt to silty clay
4.00	36.7	1.328	3.619	1.36	16	5	clayey silt to silty clay
4.07	33.3	1.329	3.991	1.34	16	5	clayey silt to silty clay
4.13	30.6	1.242	4.054	1.33	20	4	silty clay to clay
4.20	28.0	1.190	4.253	1.32	20	4	silty clay to clay
4.27	27.7	1.213	4.380	1.29	19	4	silty clay to clay
4.33	29.0	1.266	4.363	1.29	19	4	silty clay to clay
4.40	30.0	1.274	4.246	1.26	20	4	silty clay to clay
4.46	31.1	1.285	4.125	1.26	21	4	silty clay to clay
4.53	33.8	1.294	3.826	1.27	17	5	clayey silt to silty clay
4.59	37.4	1.322	3.539	1.26	19	5	clayey silt to silty clay
4.66	41.9	1.387	3.310	1.28	21	5	clayey silt to silty clay
4.72	47.9	1.436	2.999	1.39	18	6	sandy silt to clayey silt
4.79	52.0	1.488	2.860	1.92	19	6	sandy silt to clayey silt
4.86	56.2	1.532	2.728	2.10	20	6	sandy silt to clayey silt
4.92	55.8	1.618	2.900	2.19	21	6	sandy silt to clayey silt
4.99	57.0	1.658	2.911	2.28	21	6	sandy silt to clayey silt
5.05	54.4	1.641	3.016	2.34	21	6	sandy silt to clayey silt
5.12	53.4	1.571	2.942	2.37	20	6	sandy silt to clayey silt
5.18	50.8	1.459	2.871	2.44	20	6	sandy silt to clayey silt
5.25	48.8	1.413	2.893	2.52	19	6	sandy silt to clayey silt
5.31	47.2	1.364	2.889	2.53	19	6	sandy silt to clayey silt
5.38	47.0	1.517	3.230	2.59	19	6	sandy silt to clayey silt
5.45	48.5	1.450	2.992	2.67	19	6	sandy silt to clayey silt
5.51	49.2	1.470	2.991	2.71	19	6	sandy silt to clayey silt
5.58	50.1	1.470	2.933	2.71	19	6	sandy silt to clayey silt
5.64	51.7	1.538	2.978	2.76	20	6	sandy silt to clayey silt
5.71	53.5	1.627	3.041	2.78	20	6	sandy silt to clayey silt
5.77	51.5	1.705	3.313	2.78	25	5	clayey silt to silty clay
5.84	52.9	1.821	3.440	2.80	25	5	clayey silt to silty clay
5.91	54.3	1.871	3.446	2.86	25	5	clayey silt to silty clay
5.97	52.0	1.848	3.552	2.91	25	5	clayey silt to silty clay
6.04	49.9	1.804	3.619	4.90	24	5	clayey silt to silty clay
6.10	49.4	1.743	3.532	4.83	24	5	clayey silt to silty clay
6.17	49.0	1.628	3.323	4.79	23	5	clayey silt to silty clay
6.23	48.6	1.599	3.289	4.76	23	5	clayey silt to silty clay
6.30	46.4	1.504	3.239	4.72	22	5	clayey silt to silty clay
6.36	45.0	1.444	3.207	4.72	21	5	clayey silt to silty clay
6.43	44.0	1.393	3.164	4.72	20	5	clayey silt to silty clay
6.50	40.7	1.360	3.342	4.74	19	5	clayey silt to silty clay
6.56	38.1	1.304	3.419	4.65	18	5	clayey silt to silty clay
6.63	35.7	1.263	3.541	4.64	17	5	clayey silt to silty clay
6.69	33.8	1.251	3.698	4.65	16	5	clayey silt to silty clay
6.76	32.0	1.247	3.894	4.61	21	4	silty clay to clay
6.82	30.3	1.296	4.280	4.60	20	4	silty clay to clay
6.89	29.5	1.363	4.619	4.60	19	4	silty clay to clay
6.96	28.7	1.421	4.949	4.59	29	3	clay
7.02	28.7	1.464	5.097	4.60	29	3	clay
7.09	29.7	1.482	4.983	4.59	29	3	clay
7.15	31.7	1.501	4.742	4.60	29	3	clay
7.22	32.8	1.507	4.600	4.57	30	3	clay
7.28	32.0	1.484	4.637	4.56	30	3	clay
7.35	32.0	1.446	4.522	4.59	29	3	clay
7.41	29.9	1.412	4.724	4.58	28	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	28.5	1.360	4.771	4.56	27	3	clay
7.55	26.6	1.201	4.521	4.57	26	3	clay
7.61	24.9	1.093	4.398	4.57	26	3	clay
7.68	24.5	1.154	4.720	4.55	26	3	clay
7.74	26.6	1.230	4.631	4.52	18	4	silty clay to clay
7.81	28.2	1.252	4.438	4.55	19	4	silty clay to clay
7.87	29.9	1.302	4.351	4.55	20	4	silty clay to clay
7.94	33.1	1.401	4.231	4.51	20	4	silty clay to clay
8.01	36.1	1.424	3.943	4.53	21	4	silty clay to clay
8.07	35.5	1.335	3.758	4.54	21	4	silty clay to clay
8.14	33.6	1.302	3.872	4.57	20	4	silty clay to clay
8.20	30.4	1.267	4.166	4.54	19	4	silty clay to clay
8.27	26.4	1.159	4.385	4.46	18	4	silty clay to clay
8.33	23.5	1.047	4.454	4.44	24	3	clay
8.40	21.9	1.032	4.713	4.38	23	3	clay
8.46	21.3	1.075	5.039	4.36	24	3	clay
8.53	20.8	1.409	6.777	4.38	30	3	clay
8.60	20.8	1.828	8.803	4.33	24	4	silty clay to clay
8.66	37.5	2.095	5.587	4.33	29	4	silty clay to clay
8.73	70.8	2.314	3.268	4.34	24	5	clayey silt to silty clay
8.79	73.8	2.436	3.302	4.36	26	5	clayey silt to silty clay
8.86	68.1	2.563	3.765	4.39	28	5	clayey silt to silty clay
8.92	59.3	2.230	3.759	4.29	24	6	sandy silt to clayey silt
8.99	53.9	1.815	3.370	4.28	23	6	sandy silt to clayey silt
9.06	52.2	1.553	2.975	4.27	21	6	sandy silt to clayey silt
9.12	56.1	1.432	2.553	4.28	20	6	sandy silt to clayey silt
9.19	55.3	1.239	2.241	4.28	18	6	sandy silt to clayey silt
9.25	46.0	1.083	2.351	3.67	17	6	sandy silt to clayey silt
9.32	38.4	0.990	2.581	3.65	15	6	sandy silt to clayey silt
9.38	33.5	0.909	2.715	3.61	13	6	sandy silt to clayey silt
9.45	26.5	0.806	3.046	3.60	12	6	sandy silt to clayey silt
9.51	23.4	0.730	3.116	3.58	13	5	clayey silt to silty clay
9.58	22.6	0.628	2.785	3.58	12	5	clayey silt to silty clay
9.65	21.4	0.630	2.949	3.54	11	5	clayey silt to silty clay
9.71	21.6	0.670	3.107	3.51	12	5	clayey silt to silty clay
9.78	23.7	0.683	2.883	3.48	12	5	clayey silt to silty clay
9.84	27.7	0.772	2.788	3.45	13	5	clayey silt to silty clay
9.91	30.7	0.839	2.728	3.42	14	5	clayey silt to silty clay
9.97	30.7	0.953	3.109	3.41	15	5	clayey silt to silty clay
10.04	30.5	1.140	3.738	3.40	16	5	clayey silt to silty clay
10.10	33.9	1.226	3.613	3.40	16	5	clayey silt to silty clay
10.17	36.3	1.366	3.760	3.34	16	5	clayey silt to silty clay
10.24	39.6	1.392	3.517	3.34	20	4	silty clay to clay
10.30	34.1	1.313	3.847	3.33	19	4	silty clay to clay
10.37	25.4	1.244	4.906	3.30	18	4	silty clay to clay
10.43	22.5	1.114	4.963	3.26	16	4	silty clay to clay
10.50	19.3	0.912	4.721	3.30	21	3	clay
10.56	17.5	0.750	4.292	3.27	18	3	clay
10.63	17.8	0.658	3.689	3.26	16	3	clay
10.70	14.3	0.581	4.047	3.19	15	3	clay
10.76	13.4	0.561	4.171	3.16	14	3	clay
10.83	13.0	0.530	4.066	3.20	13	3	clay
10.89	12.2	0.511	4.204	3.17	12	3	clay
10.96	12.5	0.526	4.204	3.17	12	3	clay
11.02	13.5	0.521	3.871	3.16	12	3	clay
11.09	10.6	0.552	5.187	3.12	12	3	clay
11.15	10.8	0.619	5.719	3.10	13	3	clay
11.22	12.2	0.605	4.949	3.08	14	3	clay
11.29	14.7	0.596	4.046	3.04	10	4	silty clay to clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	18.2	0.586	3.221	3.04	11	4	silty clay to clay
11.42	20.8	0.600	2.887	3.05	11	4	silty clay to clay
11.48	20.8	0.637	3.057	3.05	12	4	silty clay to clay
11.55	19.7	0.681	3.456	3.05	12	4	silty clay to clay
11.61	18.3	0.730	4.001	3.02	12	4	silty clay to clay
11.68	17.9	0.721	4.027	3.05	12	4	silty clay to clay
11.75	17.6	0.690	3.912	3.00	12	4	silty clay to clay
11.81	18.1	0.693	3.826	2.99	12	4	silty clay to clay
11.88	19.2	0.722	3.749	2.96	12	4	silty clay to clay
11.94	18.4	0.751	4.076	2.95	13	4	silty clay to clay
12.01	19.7	0.823	4.170	2.94	14	4	silty clay to clay
12.07	22.3	0.771	3.450	2.97	15	4	silty clay to clay
12.14	24.6	0.854	3.476	2.96	12	5	clayey silt to silty clay
12.20	28.7	1.064	3.706	2.98	13	5	clayey silt to silty clay
12.27	32.4	1.088	3.355	3.01	14	5	clayey silt to silty clay
12.34	32.2	1.067	3.312	3.01	14	5	clayey silt to silty clay
12.40	30.2	1.050	3.481	3.05	14	5	clayey silt to silty clay
12.47	29.6	1.062	3.592	3.05	14	5	clayey silt to silty clay
12.53	27.0	1.012	3.752	2.51	13	5	clayey silt to silty clay
12.60	26.5	1.000	3.766	2.51	17	4	silty clay to clay
12.66	25.2	0.996	3.960	2.52	17	4	silty clay to clay
12.73	25.7	1.002	3.905	2.51	17	4	silty clay to clay
12.80	24.9	1.043	4.188	2.51	17	4	silty clay to clay
12.86	25.5	1.036	4.069	2.53	17	4	silty clay to clay
12.93	27.9	1.064	3.818	2.50	18	4	silty clay to clay
12.99	30.5	1.111	3.640	2.51	18	4	silty clay to clay
13.06	29.9	1.083	3.619	2.52	14	5	clayey silt to silty clay
13.12	30.6	1.134	3.707	2.52	15	5	clayey silt to silty clay
13.19	32.5	1.192	3.671	2.55	15	5	clayey silt to silty clay
13.25	34.8	1.142	3.282	2.56	15	5	clayey silt to silty clay
13.32	32.3	1.058	3.270	2.54	15	5	clayey silt to silty clay
13.39	30.4	0.994	3.275	2.52	14	5	clayey silt to silty clay
13.45	29.6	1.019	3.442	2.53	14	5	clayey silt to silty clay
13.52	26.3	1.018	3.876	2.56	13	5	clayey silt to silty clay
13.58	25.4	0.932	3.671	2.58	13	5	clayey silt to silty clay
13.65	24.8	0.862	3.479	2.55	17	4	silty clay to clay
13.71	25.0	0.964	3.864	2.58	16	4	silty clay to clay
13.78	25.6	1.031	4.028	2.62	16	4	silty clay to clay
13.85	25.6	1.122	4.384	2.62	16	4	silty clay to clay
13.91	24.8	1.146	4.619	2.58	16	4	silty clay to clay
13.98	24.4	1.108	4.545	2.62	16	4	silty clay to clay
14.04	24.5	1.122	4.584	2.61	24	3	clay
14.11	24.7	1.082	4.380	2.61	24	3	clay
14.17	24.7	1.021	4.137	2.61	24	3	clay
14.24	24.8	1.216	4.905	2.66	26	3	clay
14.30	25.3	1.256	4.972	2.66	38	3	clay
14.37	27.6	2.377	8.600	2.66	31	5	clayey silt to silty clay
14.44	39.7	3.194	8.037	2.72	36	6	sandy silt to clayey silt
14.50	111.5	3.871	3.473	2.90	47	6	sandy silt to clayey silt
14.57	203.9	4.813	2.361	3.08	59	6	sandy silt to clayey silt
14.63	226.2	5.787	2.558	3.13	60	7	silty sand to sandy silt
14.70	228.5	6.525	2.856	3.22	73	7	silty sand to sandy silt
14.76	242.1	7.254	2.996	3.37	82	7	silty sand to sandy silt
14.83	269.6	7.765	2.880	3.50	87	7	silty sand to sandy silt
14.90	309.5	7.283	2.353	3.53	92	7	silty sand to sandy silt
14.96	317.0	7.083	2.235	3.56	98	7	silty sand to sandy silt
15.03	315.1	7.135	2.264	3.62	0	0	<out of range>
15.09	327.0	7.844	2.399	3.76	0	0	<out of range>
15.16	364.1	8.613	2.366	3.85	86	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	363.0	-32768	-32768	3.95	0	0	<out of range>
15.29	360.3	-32768	-32768	3.98	0	0	<out of range>
15.35	351.0	-32768	-32768	4.04	0	0	<out of range>
15.42	360.1	-32768	-32768	4.10	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

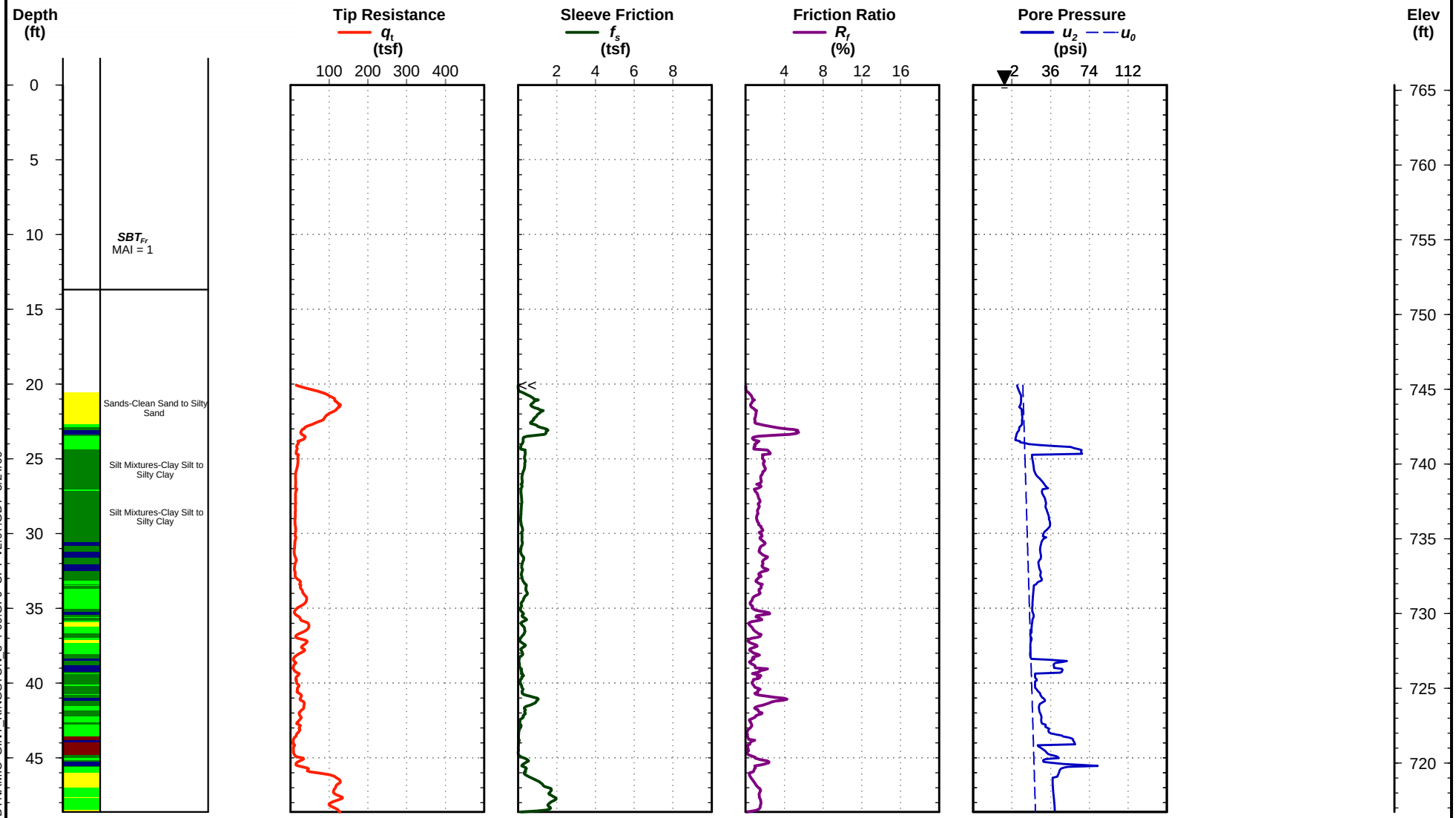
09-211-C2

Project No: 60095742

Date: Feb. 19, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 557060.12
Easting: 2441959.73
Elevation: 765.35 NGVD

Total Depth: 48.6 ft
Termination Criteria: Refusal
Cone Size: 5T Tension Cone



09-211-C2

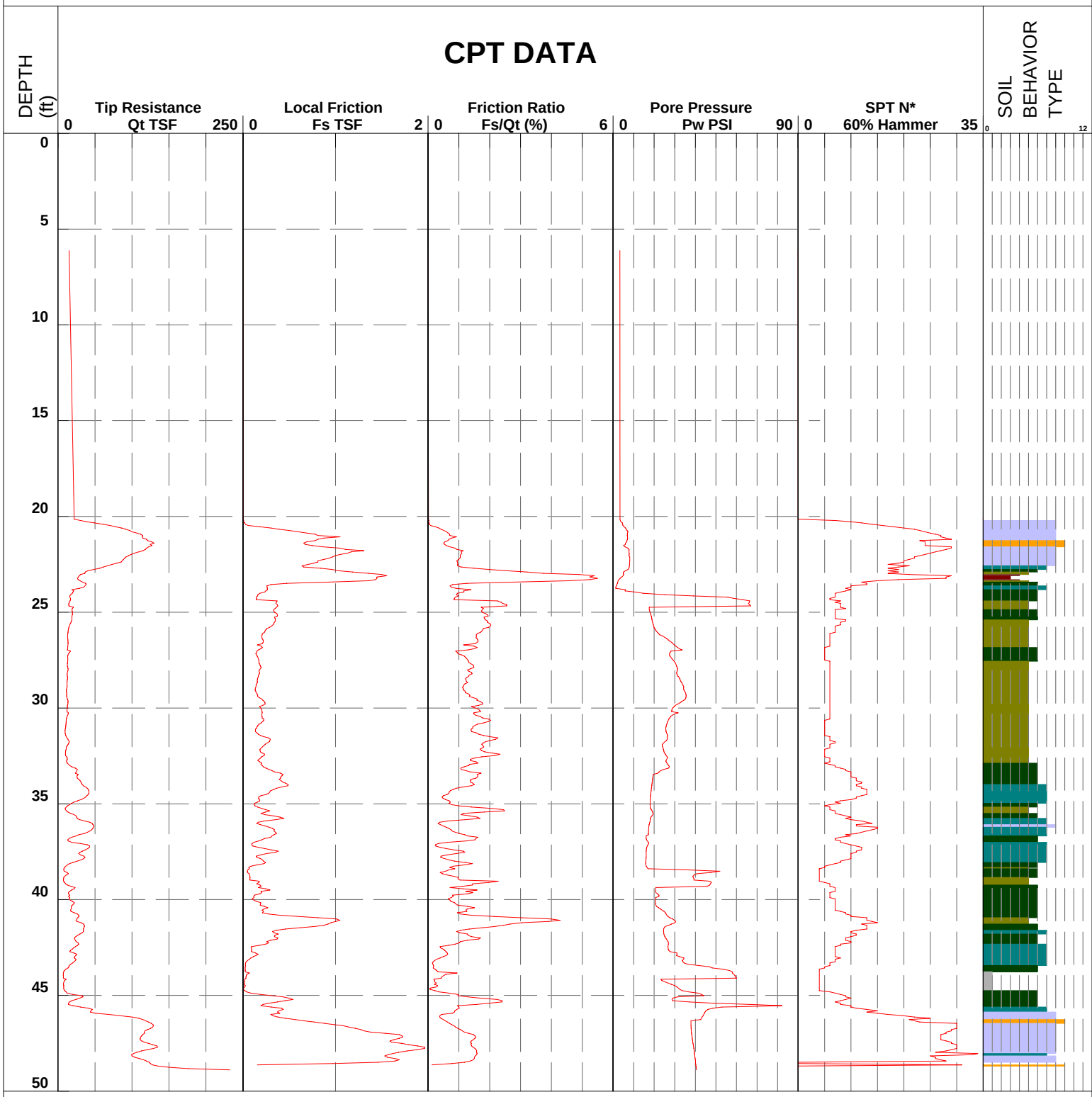
Electronic Filename: 09-211-C2.cpt

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/24/09

AECOM

09-211-C2	60095742	2/19/2009 9:26:26 AM
DTA1081	TVA-Kingston	Mobile 57/CAP

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-211-C2 2/19/2009 9:26:26 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DTA1081 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
20.08	15.09	-0.0045	-0.030	3.314	0	0	<out of range>
20.14	22.00	0.0036	0.017	3.345	0	0	<out of range>
20.21	30.56	0.0084	0.028	3.554	7	8	sand to silty sand
20.28	39.04	0.0062	0.016	3.801	10	8	sand to silty sand
20.34	49.42	0.0187	0.038	4.484	12	8	sand to silty sand
20.41	61.03	0.0265	0.043	4.675	14	8	sand to silty sand
20.47	70.51	0.0557	0.079	4.812	16	8	sand to silty sand
20.54	77.86	0.1850	0.238	5.343	18	8	sand to silty sand
20.60	85.89	0.3006	0.350	6.082	20	8	sand to silty sand
20.67	91.85	0.3896	0.424	6.379	22	8	sand to silty sand
20.73	96.75	0.4999	0.517	6.856	23	8	sand to silty sand
20.80	100.06	0.6018	0.601	7.218	24	8	sand to silty sand
20.87	106.97	0.6945	0.649	7.006	25	8	sand to silty sand
20.93	111.91	0.7827	0.699	6.937	26	8	sand to silty sand
21.00	114.45	0.8080	0.706	6.891	27	8	sand to silty sand
21.06	114.02	1.0496	0.920	7.056	27	8	sand to silty sand
21.13	114.93	0.8721	0.759	7.097	28	8	sand to silty sand
21.19	119.78	0.8075	0.674	6.950	29	8	sand to silty sand
21.26	121.06	0.7818	0.646	6.756	23	9	sand
21.33	126.48	0.6882	0.544	6.691	24	9	sand
21.39	129.66	0.6563	0.506	5.998	24	9	sand
21.46	124.80	0.6762	0.542	5.986	24	9	sand
21.52	126.87	0.7517	0.593	5.159	24	9	sand
21.59	122.87	0.8626	0.702	5.783	29	8	sand to silty sand
21.65	119.82	1.0415	0.869	7.234	29	8	sand to silty sand
21.72	118.09	1.1118	0.941	7.761	28	8	sand to silty sand
21.78	114.93	1.3043	1.135	7.783	27	8	sand to silty sand
21.85	109.56	1.1711	1.069	7.739	26	8	sand to silty sand
21.92	103.23	1.1301	1.095	7.842	25	8	sand to silty sand
21.98	98.92	1.0528	1.064	7.836	24	8	sand to silty sand
22.05	95.53	0.9971	1.044	7.724	23	8	sand to silty sand
22.11	92.00	0.9683	1.053	8.080	22	8	sand to silty sand
22.18	90.02	0.9313	1.035	8.092	22	8	sand to silty sand
22.24	88.62	0.8739	0.986	8.114	21	8	sand to silty sand
22.31	86.70	0.8073	0.931	8.080	20	8	sand to silty sand
22.38	85.48	0.8102	0.948	8.033	20	8	sand to silty sand
22.44	79.59	0.7642	0.960	7.980	19	8	sand to silty sand
22.51	73.24	0.7057	0.964	7.995	17	8	sand to silty sand
22.57	66.97	0.6374	0.952	7.958	21	7	silty sand to sandy silt
22.64	61.26	0.6578	1.074	7.839	19	7	silty sand to sandy silt
22.70	56.25	0.8397	1.493	7.724	17	7	silty sand to sandy silt
22.77	48.37	0.9628	1.991	7.215	19	6	sandy silt to clayey silt
22.83	40.49	1.0324	2.550	6.110	17	6	sandy silt to clayey silt
22.90	36.92	1.1820	3.201	5.046	19	5	clayey silt to silty clay
22.97	36.22	1.3602	3.755	5.009	17	5	clayey silt to silty clay
23.03	30.67	1.5001	4.890	5.146	21	4	silty clay to clay
23.10	28.80	1.5534	5.393	4.924	29	3	clay
23.16	27.59	1.4467	5.244	4.185	28	3	clay
23.23	26.35	1.4477	5.494	3.417	28	3	clay
23.29	27.29	1.4355	5.260	2.912	19	4	silty clay to clay
23.36	29.71	1.3605	4.580	2.497	15	5	clayey silt to silty clay
23.43	33.17	0.9253	2.789	2.266	12	6	sandy silt to clayey silt
23.49	37.53	0.4731	1.261	2.128	13	6	sandy silt to clayey silt
23.56	37.88	0.3030	0.800	1.879	13	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
23.62	36.39	0.2591	0.712	1.579	10	7	silty sand to sandy silt
23.69	34.88	0.2610	0.748	1.348	10	7	silty sand to sandy silt
23.75	28.95	0.2619	0.905	1.339	9	7	silty sand to sandy silt
23.82	19.04	0.2654	1.394	5.964	10	6	sandy silt to clayey silt
23.88	21.27	0.2463	1.158	5.851	9	6	sandy silt to clayey silt
23.95	20.18	0.2349	1.164	10.951	8	6	sandy silt to clayey silt
24.02	19.30	0.1827	0.947	14.780	7	6	sandy silt to clayey silt
24.08	17.34	0.1607	0.927	25.262	7	6	sandy silt to clayey silt
24.15	16.00	0.1582	0.989	39.115	7	6	sandy silt to clayey silt
24.21	16.09	0.1420	0.882	55.708	7	6	sandy silt to clayey silt
24.28	17.01	0.1449	0.852	58.822	6	6	sandy silt to clayey silt
24.34	17.09	0.1441	0.843	63.138	6	6	sandy silt to clayey silt
24.41	16.34	0.3681	2.254	66.453	8	5	clayey silt to silty clay
24.48	15.20	0.3599	2.367	66.240	7	5	clayey silt to silty clay
24.54	14.66	0.3551	2.423	65.835	8	5	clayey silt to silty clay
24.61	14.55	0.3716	2.554	66.318	8	5	clayey silt to silty clay
24.67	14.74	0.3765	2.554	66.889	8	5	clayey silt to silty clay
24.74	20.96	0.3616	1.725	17.591	8	5	clayey silt to silty clay
24.80	19.37	0.3474	1.793	17.591	9	5	clayey silt to silty clay
24.87	18.89	0.3317	1.756	17.613	7	6	sandy silt to clayey silt
24.93	19.25	0.3340	1.735	17.716	7	6	sandy silt to clayey silt
25.00	19.42	0.3401	1.751	18.022	7	6	sandy silt to clayey silt
25.07	19.67	0.3653	1.857	18.269	7	6	sandy silt to clayey silt
25.13	19.38	0.3731	1.925	18.350	7	6	sandy silt to clayey silt
25.20	19.04	0.3715	1.952	18.590	7	6	sandy silt to clayey silt
25.26	18.83	0.3423	1.818	18.749	7	6	sandy silt to clayey silt
25.33	18.94	0.3472	1.833	18.840	7	6	sandy silt to clayey silt
25.39	18.83	0.3495	1.856	18.924	9	5	clayey silt to silty clay
25.46	18.25	0.3512	1.924	18.999	9	5	clayey silt to silty clay
25.52	17.60	0.3383	1.922	19.264	8	5	clayey silt to silty clay
25.59	16.74	0.3353	2.003	19.448	8	5	clayey silt to silty clay
25.66	15.97	0.3251	2.036	19.589	8	5	clayey silt to silty clay
25.72	15.24	0.3075	2.018	19.695	7	5	clayey silt to silty clay
25.79	14.70	0.2884	1.961	19.910	7	5	clayey silt to silty clay
25.85	14.37	0.2571	1.789	20.232	7	5	clayey silt to silty clay
25.92	13.87	0.2470	1.781	20.625	7	5	clayey silt to silty clay
25.98	13.67	0.2376	1.738	20.990	7	5	clayey silt to silty clay
26.05	13.62	0.2312	1.697	21.542	7	5	clayey silt to silty clay
26.12	13.30	0.2132	1.603	22.067	6	5	clayey silt to silty clay
26.18	13.21	0.2065	1.564	22.728	6	5	clayey silt to silty clay
26.25	13.08	0.2054	1.570	24.245	6	5	clayey silt to silty clay
26.31	13.09	0.2034	1.553	25.190	6	5	clayey silt to silty clay
26.38	13.09	0.2075	1.585	26.099	6	5	clayey silt to silty clay
26.44	13.38	0.2152	1.608	26.854	6	5	clayey silt to silty clay
26.51	13.54	0.2201	1.625	27.634	6	5	clayey silt to silty clay
26.57	13.66	0.2173	1.591	28.502	6	5	clayey silt to silty clay
26.64	13.66	0.2084	1.526	29.088	6	5	clayey silt to silty clay
26.71	13.54	0.1563	1.154	29.825	6	5	clayey silt to silty clay
26.77	13.25	0.1974	1.490	30.555	6	5	clayey silt to silty clay
26.84	13.19	0.2106	1.597	31.438	5	6	sandy silt to clayey silt
26.90	13.04	0.1932	1.482	32.218	5	6	sandy silt to clayey silt
26.97	12.77	0.1661	1.300	33.576	5	6	sandy silt to clayey silt
27.03	16.82	0.1513	0.899	28.143	5	6	sandy silt to clayey silt
27.10	15.57	0.1481	0.952	27.740	5	6	sandy silt to clayey silt
27.17	14.33	0.1390	0.970	27.447	5	6	sandy silt to clayey silt
27.23	13.38	0.1467	1.097	27.459	5	6	sandy silt to clayey silt
27.30	13.10	0.1544	1.178	27.768	5	6	sandy silt to clayey silt
27.36	13.11	0.1598	1.219	28.183	5	6	sandy silt to clayey silt
27.43	13.22	0.1660	1.256	28.642	5	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
27.49	13.25	0.1710	1.291	29.219	5	6	sandy silt to clayey silt
27.56	13.17	0.1728	1.312	29.731	6	5	clayey silt to silty clay
27.62	12.96	0.1717	1.325	30.202	6	5	clayey silt to silty clay
27.69	12.75	0.1765	1.384	30.461	6	5	clayey silt to silty clay
27.76	12.69	0.1859	1.466	30.680	6	5	clayey silt to silty clay
27.82	12.82	0.1898	1.481	30.908	6	5	clayey silt to silty clay
27.89	13.30	0.1976	1.486	31.160	6	5	clayey silt to silty clay
27.95	13.65	0.1870	1.370	31.369	6	5	clayey silt to silty clay
28.02	13.84	0.1768	1.277	31.366	6	5	clayey silt to silty clay
28.08	13.08	0.1735	1.326	31.114	6	5	clayey silt to silty clay
28.15	12.60	0.1785	1.416	30.898	6	5	clayey silt to silty clay
28.22	12.42	0.1768	1.424	30.942	6	5	clayey silt to silty clay
28.28	12.49	0.1666	1.333	31.217	6	5	clayey silt to silty clay
28.35	12.75	0.1676	1.315	31.638	6	5	clayey silt to silty clay
28.41	13.01	0.1618	1.244	32.193	6	5	clayey silt to silty clay
28.48	12.91	0.1570	1.216	32.443	6	5	clayey silt to silty clay
28.54	12.55	0.1545	1.232	32.627	6	5	clayey silt to silty clay
28.61	12.40	0.1540	1.242	32.998	6	5	clayey silt to silty clay
28.67	12.20	0.1563	1.282	33.332	6	5	clayey silt to silty clay
28.74	12.22	0.1458	1.193	33.679	6	5	clayey silt to silty clay
28.81	12.22	0.1412	1.155	34.053	6	5	clayey silt to silty clay
28.87	12.34	0.1414	1.146	34.300	6	5	clayey silt to silty clay
28.94	12.13	0.1347	1.111	34.387	6	5	clayey silt to silty clay
29.00	11.56	0.1330	1.151	34.272	6	5	clayey silt to silty clay
29.07	11.40	0.1316	1.154	34.465	6	5	clayey silt to silty clay
29.13	11.47	0.1384	1.207	34.865	6	5	clayey silt to silty clay
29.20	11.72	0.1418	1.210	35.214	6	5	clayey silt to silty clay
29.27	11.64	0.1533	1.316	35.383	6	5	clayey silt to silty clay
29.33	11.74	0.1592	1.356	35.511	6	5	clayey silt to silty clay
29.40	11.72	0.1568	1.338	35.511	6	5	clayey silt to silty clay
29.46	12.09	0.1778	1.470	35.405	6	5	clayey silt to silty clay
29.53	12.68	0.2024	1.596	35.195	6	5	clayey silt to silty clay
29.59	13.56	0.2146	1.583	34.397	6	5	clayey silt to silty clay
29.66	13.62	0.2302	1.690	33.351	6	5	clayey silt to silty clay
29.72	13.56	0.2382	1.757	32.655	6	5	clayey silt to silty clay
29.79	13.46	0.2387	1.773	31.507	6	5	clayey silt to silty clay
29.86	12.96	0.2129	1.643	30.237	6	5	clayey silt to silty clay
29.92	12.70	0.1795	1.414	29.722	6	5	clayey silt to silty clay
29.99	12.58	0.1880	1.494	29.157	6	5	clayey silt to silty clay
30.05	12.26	0.1993	1.625	28.661	6	5	clayey silt to silty clay
30.12	12.21	0.2044	1.674	28.573	6	5	clayey silt to silty clay
30.18	12.13	0.2064	1.701	28.458	6	5	clayey silt to silty clay
30.25	14.03	0.2083	1.485	31.666	6	5	clayey silt to silty clay
30.31	13.66	0.2028	1.484	29.728	6	5	clayey silt to silty clay
30.38	13.15	0.2041	1.552	28.736	6	5	clayey silt to silty clay
30.45	12.20	0.2072	1.697	27.924	6	5	clayey silt to silty clay
30.51	11.71	0.2072	1.769	27.525	6	5	clayey silt to silty clay
30.58	11.42	0.2242	1.963	27.125	6	5	clayey silt to silty clay
30.64	11.05	0.2242	2.030	26.857	5	5	clayey silt to silty clay
30.71	10.94	0.2136	1.952	26.579	5	5	clayey silt to silty clay
30.77	10.86	0.1950	1.796	26.317	5	5	clayey silt to silty clay
30.84	10.84	0.1738	1.603	26.124	5	5	clayey silt to silty clay
30.91	10.60	0.1622	1.530	25.905	5	5	clayey silt to silty clay
30.97	10.56	0.1534	1.452	25.827	5	5	clayey silt to silty clay
31.04	10.21	0.1482	1.451	25.652	5	5	clayey silt to silty clay
31.10	9.80	0.1371	1.399	25.596	5	5	clayey silt to silty clay
31.17	9.60	0.1335	1.391	25.721	5	5	clayey silt to silty clay
31.23	9.52	0.1352	1.420	25.790	5	5	clayey silt to silty clay
31.30	9.74	0.1526	1.566	25.986	5	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
31.36	10.06	0.1663	1.653	26.320	5	5	clayey silt to silty clay
31.43	10.60	0.1903	1.795	26.557	5	5	clayey silt to silty clay
31.50	11.22	0.2247	2.003	26.373	6	5	clayey silt to silty clay
31.56	12.10	0.2745	2.269	26.442	6	5	clayey silt to silty clay
31.63	13.46	0.2954	2.195	26.295	6	5	clayey silt to silty clay
31.69	14.44	0.2908	2.015	26.011	6	5	clayey silt to silty clay
31.76	15.26	0.2844	1.863	25.169	7	5	clayey silt to silty clay
31.82	14.67	0.2628	1.791	24.601	7	5	clayey silt to silty clay
31.89	13.76	0.2398	1.742	24.011	6	5	clayey silt to silty clay
31.96	12.74	0.2261	1.775	23.955	6	5	clayey silt to silty clay
32.02	11.62	0.2101	1.807	24.008	6	5	clayey silt to silty clay
32.09	11.25	0.1983	1.763	24.292	6	5	clayey silt to silty clay
32.15	10.95	0.1841	1.682	24.460	5	5	clayey silt to silty clay
32.22	10.59	0.1837	1.735	24.629	5	5	clayey silt to silty clay
32.28	10.24	0.1879	1.835	24.741	5	5	clayey silt to silty clay
32.35	10.12	0.2104	2.079	25.028	5	5	clayey silt to silty clay
32.41	10.12	0.2355	2.328	25.431	5	5	clayey silt to silty clay
32.48	10.52	0.2282	2.169	25.805	5	5	clayey silt to silty clay
32.55	11.55	0.2012	1.743	26.270	5	5	clayey silt to silty clay
32.61	12.68	0.1903	1.501	26.398	6	5	clayey silt to silty clay
32.68	12.52	0.1720	1.374	26.080	6	5	clayey silt to silty clay
32.74	11.76	0.1614	1.372	25.752	6	5	clayey silt to silty clay
32.81	11.61	0.1811	1.559	25.786	6	5	clayey silt to silty clay
32.87	12.60	0.2041	1.620	26.170	5	6	sandy silt to clayey silt
32.94	14.39	0.1939	1.348	26.582	6	6	sandy silt to clayey silt
33.01	15.91	0.2086	1.311	27.054	7	6	sandy silt to clayey silt
33.07	18.81	0.2208	1.174	27.369	7	6	sandy silt to clayey silt
33.14	23.53	0.2497	1.061	26.938	8	6	sandy silt to clayey silt
33.20	26.14	0.2800	1.071	24.725	9	6	sandy silt to clayey silt
33.27	25.56	0.3133	1.226	23.165	9	6	sandy silt to clayey silt
33.33	24.77	0.3387	1.367	22.376	10	6	sandy silt to clayey silt
33.40	23.55	0.4046	1.718	21.764	10	6	sandy silt to clayey silt
33.46	27.14	0.4319	1.592	19.561	10	6	sandy silt to clayey silt
33.53	26.01	0.4215	1.620	19.461	10	6	sandy silt to clayey silt
33.60	25.53	0.4089	1.602	19.348	10	6	sandy silt to clayey silt
33.66	26.18	0.4070	1.555	19.274	11	6	sandy silt to clayey silt
33.73	28.23	0.3922	1.389	19.186	11	6	sandy silt to clayey silt
33.79	29.85	0.4114	1.378	19.111	11	6	sandy silt to clayey silt
33.86	31.10	0.4281	1.377	19.027	12	6	sandy silt to clayey silt
33.92	31.61	0.4592	1.453	18.955	12	6	sandy silt to clayey silt
33.99	32.56	0.4883	1.500	18.880	11	7	silty sand to sandy silt
34.06	34.47	0.4850	1.407	18.818	11	7	silty sand to sandy silt
34.12	37.11	0.4181	1.126	18.749	12	7	silty sand to sandy silt
34.19	39.62	0.3632	0.917	18.659	12	7	silty sand to sandy silt
34.25	41.11	0.3332	0.811	18.584	13	7	silty sand to sandy silt
34.32	41.56	0.2989	0.719	18.496	13	7	silty sand to sandy silt
34.38	42.03	0.2884	0.686	18.425	13	7	silty sand to sandy silt
34.45	41.63	0.2791	0.671	18.372	13	7	silty sand to sandy silt
34.51	40.69	0.2502	0.615	18.306	13	7	silty sand to sandy silt
34.58	39.18	0.1944	0.496	18.250	12	7	silty sand to sandy silt
34.65	37.22	0.1697	0.456	18.197	11	7	silty sand to sandy silt
34.71	34.90	0.1692	0.485	18.150	11	7	silty sand to sandy silt
34.78	31.26	0.1763	0.564	18.100	10	7	silty sand to sandy silt
34.84	26.54	0.1825	0.688	18.056	8	7	silty sand to sandy silt
34.91	21.93	0.1587	0.724	18.028	7	7	silty sand to sandy silt
34.97	18.39	0.1254	0.682	18.000	8	6	sandy silt to clayey silt
35.04	15.58	0.1201	0.771	17.982	6	6	sandy silt to clayey silt
35.10	13.16	0.1308	0.994	17.988	5	6	sandy silt to clayey silt
35.17	11.26	0.1581	1.404	18.028	6	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
35.24	9.86	0.1976	2.005	18.200	6	5	clayey silt to silty clay
35.30	10.10	0.2474	2.449	18.618	6	5	clayey silt to silty clay
35.37	11.65	0.2886	2.478	18.955	7	5	clayey silt to silty clay
35.43	13.47	0.2451	1.820	19.224	7	5	clayey silt to silty clay
35.50	17.07	0.1951	1.142	19.417	7	6	sandy silt to clayey silt
35.56	22.00	0.2361	1.073	19.392	8	6	sandy silt to clayey silt
35.63	24.46	0.3309	1.353	18.890	9	6	sandy silt to clayey silt
35.70	25.15	0.4001	1.591	18.400	10	6	sandy silt to clayey silt
35.76	26.22	0.4418	1.685	18.213	9	7	silty sand to sandy silt
35.83	28.95	0.3550	1.226	18.106	10	7	silty sand to sandy silt
35.89	36.04	0.2323	0.645	18.010	12	7	silty sand to sandy silt
35.96	43.07	0.1646	0.382	17.869	13	7	silty sand to sandy silt
36.02	46.22	0.1491	0.323	17.704	14	7	silty sand to sandy silt
36.09	47.30	0.1868	0.395	17.557	11	8	sand to silty sand
36.15	48.21	0.2385	0.495	17.423	11	8	sand to silty sand
36.22	47.80	0.2823	0.591	17.357	15	7	silty sand to sandy silt
36.29	46.94	0.3196	0.681	17.311	15	7	silty sand to sandy silt
36.35	45.62	0.3395	0.744	17.279	14	7	silty sand to sandy silt
36.42	43.03	0.3342	0.777	17.226	13	7	silty sand to sandy silt
36.48	39.93	0.3525	0.883	17.195	12	7	silty sand to sandy silt
36.55	35.30	0.3614	1.024	17.170	11	7	silty sand to sandy silt
36.61	28.20	0.3360	1.192	17.151	9	7	silty sand to sandy silt
36.68	24.36	0.3117	1.280	16.087	10	6	sandy silt to clayey silt
36.75	18.58	0.3006	1.617	16.081	8	6	sandy silt to clayey silt
36.81	14.95	0.2315	1.548	16.125	7	6	sandy silt to clayey silt
36.88	13.34	0.2031	1.522	16.315	7	6	sandy silt to clayey silt
36.94	13.80	0.1701	1.232	16.696	8	6	sandy silt to clayey silt
37.01	18.66	0.1189	0.637	17.164	8	7	silty sand to sandy silt
37.07	30.56	0.0992	0.325	17.329	9	7	silty sand to sandy silt
37.14	39.99	0.0945	0.236	16.927	10	7	silty sand to sandy silt
37.20	42.87	0.1076	0.251	16.605	11	7	silty sand to sandy silt
37.27	42.66	0.1648	0.386	16.406	12	7	silty sand to sandy silt
37.34	40.23	0.2342	0.582	16.281	12	7	silty sand to sandy silt
37.40	36.72	0.3080	0.839	16.181	12	7	silty sand to sandy silt
37.47	33.10	0.3789	1.145	16.131	11	7	silty sand to sandy silt
37.53	29.72	0.3532	1.189	16.109	11	7	silty sand to sandy silt
37.60	28.03	0.2570	0.917	16.097	10	7	silty sand to sandy silt
37.66	30.37	0.1896	0.624	16.097	10	7	silty sand to sandy silt
37.73	34.97	0.1453	0.415	16.103	10	7	silty sand to sandy silt
37.80	36.63	0.1502	0.410	16.062	10	7	silty sand to sandy silt
37.86	34.92	0.1894	0.542	16.012	10	7	silty sand to sandy silt
37.93	31.03	0.2099	0.676	15.953	9	7	silty sand to sandy silt
37.99	25.95	0.2228	0.859	15.938	8	7	silty sand to sandy silt
38.06	20.17	0.2439	1.209	15.919	8	6	sandy silt to clayey silt
38.12	15.87	0.2280	1.437	15.919	7	6	sandy silt to clayey silt
38.19	12.84	0.1518	1.182	15.962	6	6	sandy silt to clayey silt
38.25	10.49	0.0852	0.813	16.172	5	6	sandy silt to clayey silt
38.32	8.97	0.0632	0.705	16.518	5	5	clayey silt to silty clay
38.39	7.96	0.0691	0.867	16.999	4	6	sandy silt to clayey silt
38.45	7.75	0.0527	0.680	35.901	4	6	sandy silt to clayey silt
38.52	8.39	0.0472	0.563	51.904	4	6	sandy silt to clayey silt
38.58	12.41	0.0487	0.392	47.479	4	6	sandy silt to clayey silt
38.65	13.98	0.0653	0.467	40.775	4	6	sandy silt to clayey silt
38.71	11.55	0.0708	0.614	39.393	4	6	sandy silt to clayey silt
38.78	9.22	0.0758	0.823	38.819	4	6	sandy silt to clayey silt
38.85	7.82	0.0769	0.982	39.006	4	5	clayey silt to silty clay
38.91	7.70	0.0745	0.967	39.330	4	5	clayey silt to silty clay
38.98	7.35	0.0760	1.034	39.393	4	5	clayey silt to silty clay
39.04	7.74	0.1763	2.276	47.042	4	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
39.11	8.66	0.1707	1.971	47.784	5	5	clayey silt to silty clay
39.17	10.36	0.1503	1.450	47.379	6	5	clayey silt to silty clay
39.24	12.82	0.1836	1.433	46.951	6	6	sandy silt to clayey silt
39.30	17.57	0.1966	1.119	45.753	6	6	sandy silt to clayey silt
39.37	23.09	0.1650	0.714	20.722	7	6	sandy silt to clayey silt
39.44	21.67	0.2464	1.137	20.712	7	6	sandy silt to clayey silt
39.50	18.41	0.2923	1.588	20.709	7	6	sandy silt to clayey silt
39.57	15.89	0.1941	1.221	20.715	7	6	sandy silt to clayey silt
39.63	14.03	0.2048	1.460	20.750	6	6	sandy silt to clayey silt
39.70	14.15	0.1825	1.290	21.655	6	6	sandy silt to clayey silt
39.76	15.71	0.1252	0.797	22.326	6	6	sandy silt to clayey silt
39.83	14.37	0.1166	0.812	22.273	6	6	sandy silt to clayey silt
39.90	15.88	0.1189	0.748	20.693	6	6	sandy silt to clayey silt
39.96	15.24	0.0990	0.650	20.659	7	6	sandy silt to clayey silt
40.03	16.64	0.1181	0.710	20.659	7	6	sandy silt to clayey silt
40.09	19.65	0.1451	0.739	20.672	7	6	sandy silt to clayey silt
40.16	22.11	0.1907	0.863	20.669	7	6	sandy silt to clayey silt
40.22	21.42	0.1923	0.897	20.672	7	6	sandy silt to clayey silt
40.29	19.29	0.1854	0.961	20.750	7	6	sandy silt to clayey silt
40.35	18.00	0.2306	1.281	21.196	7	6	sandy silt to clayey silt
40.42	17.83	0.2683	1.505	22.198	7	6	sandy silt to clayey silt
40.49	17.89	0.2279	1.274	23.081	7	6	sandy silt to clayey silt
40.55	16.84	0.2064	1.226	23.808	7	6	sandy silt to clayey silt
40.62	17.67	0.2226	1.260	24.766	8	6	sandy silt to clayey silt
40.68	22.02	0.2097	0.952	25.512	9	6	sandy silt to clayey silt
40.75	26.08	0.2729	1.046	25.793	9	6	sandy silt to clayey silt
40.81	28.26	0.3956	1.400	26.173	10	6	sandy silt to clayey silt
40.88	28.17	0.6027	2.140	26.754	10	6	sandy silt to clayey silt
40.94	26.93	0.8101	3.008	27.553	13	5	clayey silt to silty clay
41.01	25.39	1.0106	3.980	28.942	13	5	clayey silt to silty clay
41.08	24.40	1.0454	4.284	29.865	13	5	clayey silt to silty clay
41.14	25.61	1.0024	3.915	30.486	14	5	clayey silt to silty clay
41.21	31.26	0.9530	3.049	30.199	15	5	clayey silt to silty clay
41.27	34.52	0.9184	2.660	28.433	12	6	sandy silt to clayey silt
41.34	35.70	0.8743	2.449	26.907	13	6	sandy silt to clayey silt
41.40	35.79	0.7661	2.141	25.303	13	6	sandy silt to clayey silt
41.47	35.05	0.6251	1.783	24.850	13	6	sandy silt to clayey silt
41.54	34.37	0.4577	1.332	24.579	13	6	sandy silt to clayey silt
41.60	34.50	0.3613	1.047	24.513	11	7	silty sand to sandy silt
41.67	34.51	0.3182	0.922	24.538	10	7	silty sand to sandy silt
41.73	32.74	0.3383	1.033	24.604	10	7	silty sand to sandy silt
41.80	29.80	0.3817	1.281	24.697	11	6	sandy silt to clayey silt
41.86	26.61	0.3446	1.295	24.897	11	6	sandy silt to clayey silt
41.93	24.12	0.3395	1.407	25.147	10	6	sandy silt to clayey silt
41.99	22.17	0.3770	1.700	25.515	9	6	sandy silt to clayey silt
42.06	22.50	0.3697	1.643	25.977	9	6	sandy silt to clayey silt
42.13	23.58	0.2990	1.268	26.358	9	6	sandy silt to clayey silt
42.19	24.48	0.2568	1.049	26.735	10	6	sandy silt to clayey silt
42.26	27.34	0.2768	1.012	26.916	10	6	sandy silt to clayey silt
42.32	27.94	0.2452	0.878	26.941	8	7	silty sand to sandy silt
42.39	26.28	0.1726	0.657	26.776	8	7	silty sand to sandy silt
42.45	23.66	0.0924	0.390	26.670	7	7	silty sand to sandy silt
42.52	21.34	0.0863	0.405	26.760	7	7	silty sand to sandy silt
42.59	19.29	0.0971	0.503	26.888	7	7	silty sand to sandy silt
42.65	16.66	0.0902	0.541	27.153	7	7	silty sand to sandy silt
42.72	16.07	0.0930	0.579	27.678	7	7	silty sand to sandy silt
42.78	21.29	0.1327	0.623	30.967	7	7	silty sand to sandy silt
42.85	25.78	0.1641	0.636	31.170	7	7	silty sand to sandy silt
42.91	24.03	0.1410	0.587	30.783	7	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
42.98	22.59	0.1130	0.500	32.268	7	7	silty sand to sandy silt
43.04	21.99	0.0860	0.391	34.468	8	7	silty sand to sandy silt
43.11	24.53	0.0691	0.281	34.275	7	7	silty sand to sandy silt
43.18	23.60	0.0513	0.217	33.666	7	7	silty sand to sandy silt
43.24	22.02	0.0368	0.167	33.969	7	7	silty sand to sandy silt
43.31	19.85	0.0272	0.137	34.521	6	7	silty sand to sandy silt
43.37	17.42	0.0272	0.156	36.285	6	7	silty sand to sandy silt
43.44	15.17	0.0270	0.178	41.727	6	6	sandy silt to clayey silt
43.50	14.69	0.0260	0.177	46.976	5	6	sandy silt to clayey silt
43.57	13.62	0.0225	0.165	48.203	5	6	sandy silt to clayey silt
43.64	10.68	0.0241	0.226	53.402	4	6	sandy silt to clayey silt
43.70	8.60	0.0237	0.275	56.688	4	6	sandy silt to clayey silt
43.77	7.74	0.0246	0.317	57.942	4	1	sensitive fine grained
43.83	7.38	0.0696	0.942	58.055	4	1	sensitive fine grained
43.90	7.16	0.0413	0.577	58.673	4	1	sensitive fine grained
43.96	7.17	0.0365	0.509	59.262	4	1	sensitive fine grained
44.03	7.35	0.0329	0.448	59.422	4	1	sensitive fine grained
44.09	7.36	0.0315	0.429	60.055	4	1	sensitive fine grained
44.16	10.96	0.0206	0.188	23.327	4	1	sensitive fine grained
44.23	8.91	0.0189	0.212	23.699	4	1	sensitive fine grained
44.29	8.16	0.0173	0.211	25.309	4	1	sensitive fine grained
44.36	7.51	0.0204	0.271	26.888	4	1	sensitive fine grained
44.42	7.51	0.0156	0.208	28.392	4	1	sensitive fine grained
44.49	7.74	0.0239	0.309	29.909	4	1	sensitive fine grained
44.55	7.83	0.0224	0.286	30.945	4	1	sensitive fine grained
44.62	7.70	0.0047	0.061	31.731	4	1	sensitive fine grained
44.69	7.98	0.0051	0.063	32.487	4	1	sensitive fine grained
44.75	9.04	0.0201	0.223	33.566	4	6	sandy silt to clayey silt
44.82	10.89	0.0375	0.344	36.640	6	6	sandy silt to clayey silt
44.88	12.42	0.0848	0.683	41.415	7	6	sandy silt to clayey silt
44.95	19.87	0.1937	0.975	43.044	8	6	sandy silt to clayey silt
45.01	32.88	0.3183	0.968	44.118	9	6	sandy silt to clayey silt
45.08	33.84	0.4333	1.280	31.366	9	6	sandy silt to clayey silt
45.14	29.50	0.4943	1.676	28.979	10	6	sandy silt to clayey silt
45.21	24.17	0.5415	2.241	28.664	9	6	sandy silt to clayey silt
45.28	18.88	0.4540	2.405	29.098	8	6	sandy silt to clayey silt
45.34	15.55	0.3722	2.395	37.071	7	6	sandy silt to clayey silt
45.41	14.17	0.2805	1.979	48.849	8	6	sandy silt to clayey silt
45.47	13.93	0.2172	1.559	66.833	8	6	sandy silt to clayey silt
45.54	20.27	0.1935	0.955	82.137	10	6	sandy silt to clayey silt
45.60	30.67	0.3065	0.999	52.974	10	7	silty sand to sandy silt
45.67	40.99	0.4151	1.013	48.521	11	7	silty sand to sandy silt
45.73	46.76	0.4364	0.933	46.190	13	7	silty sand to sandy silt
45.80	44.58	0.3882	0.871	45.176	15	7	silty sand to sandy silt
45.87	43.65	0.3722	0.853	44.701	13	8	sand to silty sand
45.93	51.06	0.3982	0.780	44.380	15	8	sand to silty sand
46.00	68.62	0.2999	0.437	44.083	17	8	sand to silty sand
46.06	85.02	0.3241	0.381	43.806	20	8	sand to silty sand
46.13	100.13	0.3780	0.377	43.300	22	8	sand to silty sand
46.19	109.15	0.4559	0.418	42.938	25	8	sand to silty sand
46.26	114.48	0.5637	0.492	42.645	21	9	sand
46.33	118.20	0.6542	0.553	37.870	22	9	sand
46.39	122.41	0.7707	0.630	37.845	23	9	sand
46.46	126.17	0.8829	0.700	37.857	30	8	sand to silty sand
46.52	128.49	0.9843	0.766	37.876	30	8	sand to silty sand
46.59	129.09	1.0865	0.842	37.904	30	8	sand to silty sand
46.65	128.01	1.1424	0.892	37.926	30	8	sand to silty sand
46.72	125.35	1.2173	0.971	37.951	30	8	sand to silty sand
46.78	121.07	1.2730	1.051	38.001	29	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
46.85	117.50	1.3084	1.113	38.054	29	8	sand to silty sand
46.92	116.87	1.3791	1.180	38.110	28	8	sand to silty sand
46.98	116.76	1.5417	1.320	38.188	28	8	sand to silty sand
47.05	114.71	1.6913	1.474	38.263	27	8	sand to silty sand
47.11	112.85	1.7192	1.523	38.344	27	8	sand to silty sand
47.18	111.58	1.7251	1.546	38.419	27	8	sand to silty sand
47.24	111.18	1.6872	1.518	38.516	27	8	sand to silty sand
47.31	111.14	1.6317	1.468	38.594	27	8	sand to silty sand
47.38	113.03	1.5872	1.404	38.681	28	8	sand to silty sand
47.44	116.73	1.6051	1.375	38.784	29	8	sand to silty sand
47.51	122.27	1.7153	1.403	38.878	29	8	sand to silty sand
47.57	128.13	1.7885	1.396	38.978	30	8	sand to silty sand
47.64	133.62	1.8892	1.414	39.093	30	8	sand to silty sand
47.70	134.60	1.9645	1.459	39.190	30	8	sand to silty sand
47.77	129.04	1.9619	1.520	39.280	30	8	sand to silty sand
47.83	120.51	1.8801	1.560	39.371	29	8	sand to silty sand
47.90	112.70	1.7747	1.575	39.443	28	8	sand to silty sand
47.97	106.60	1.6811	1.577	39.521	26	8	sand to silty sand
48.03	102.16	1.6201	1.586	39.561	34	7	silty sand to sandy silt
48.10	99.51	1.5687	1.576	39.658	33	7	silty sand to sandy silt
48.16	100.12	1.5338	1.532	39.752	25	8	sand to silty sand
48.23	103.62	1.5606	1.506	39.852	26	8	sand to silty sand
48.29	109.62	1.6439	1.500	39.930	26	8	sand to silty sand
48.36	115.61	1.6887	1.461	39.980	27	8	sand to silty sand
48.43	119.78	1.6402	1.369	40.042	28	8	sand to silty sand
48.49	123.50	1.4586	1.181	40.111	0	0	<out of range>
48.56	124.70	0.9710	0.779	40.167	0	0	<out of range>
48.62	127.75	0.1559	0.122	40.226	31	9	sand
48.69	134.73	-32768	-32768	40.285	0	0	<out of range>
48.75	149.73	-32768	-32768	40.416	0	0	<out of range>
48.82	176.13	-32768	-32768	40.435	0	0	<out of range>
48.88	232.24	-32768	-32768	40.625	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

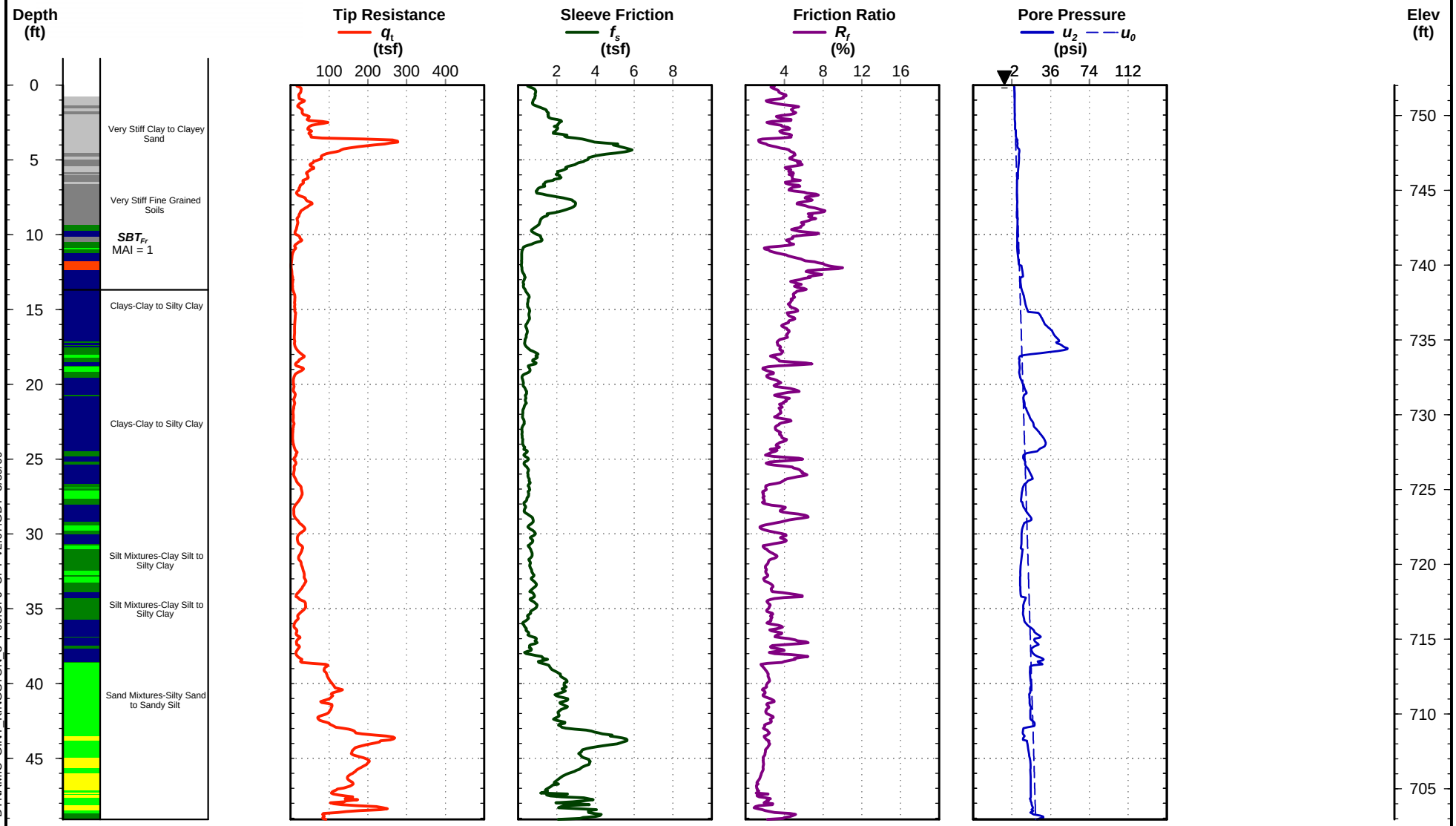
09-212-C1

Project No: 60095742

Date: Mar. 7, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 556308.33
Easting: 2442519.2
Elevation: 752.03 NGVD

Total Depth: 49.1 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



09-212-C1

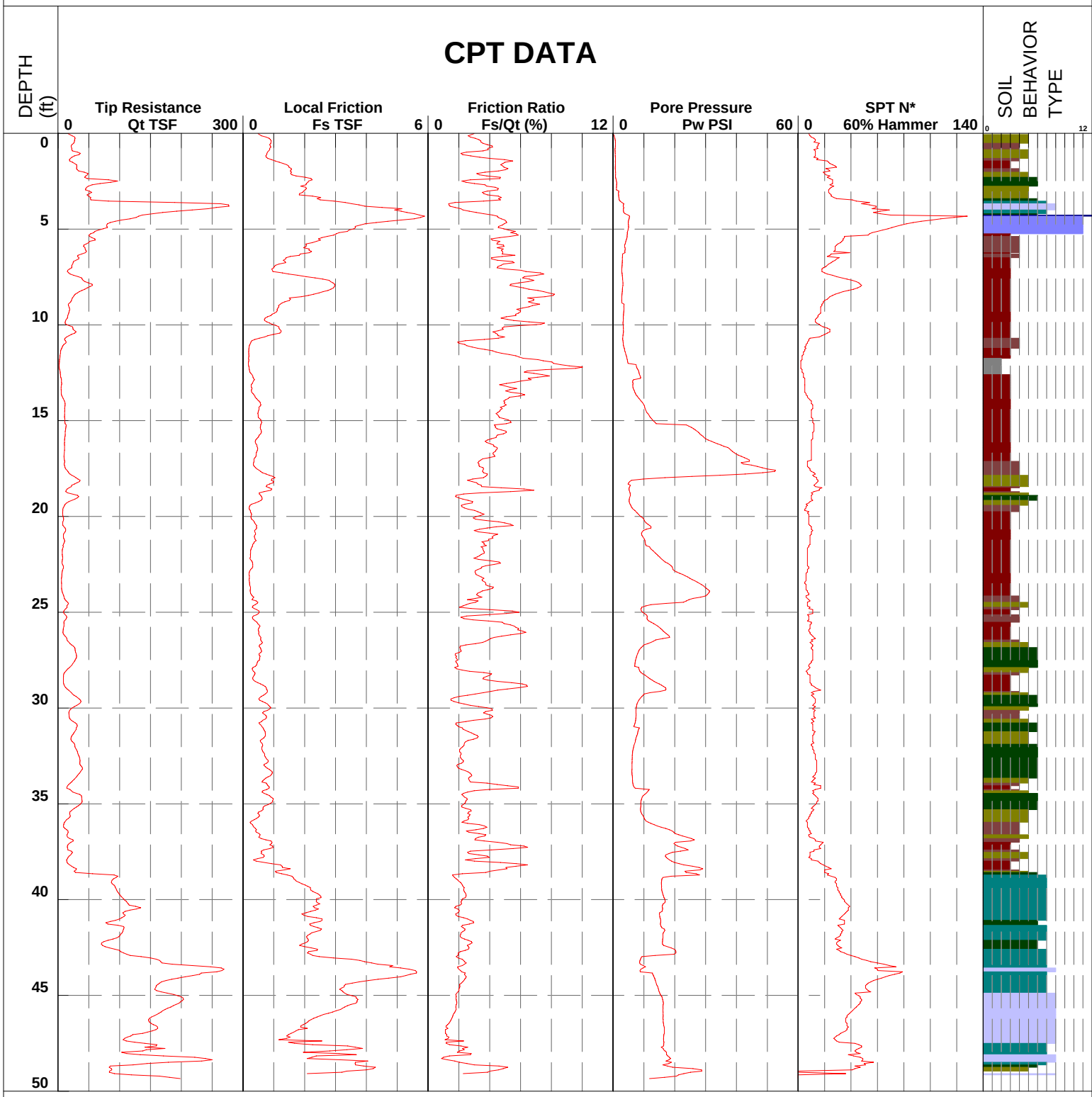
Electronic Filename: 09-212-C1.cpt

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/30/09

AECOM

09-212-C1	60095742	3/7/2009 9:04:57 AM
DSG0870	TVA-Kingston	Mobile 57/CAP

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-212-C1 3/7/2009 9:04:57 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	16.43	0.4904	2.986	0.041	8	5	clayey silt to silty clay
0.13	22.95	0.5982	2.607	0.371	9	5	clayey silt to silty clay
0.20	27.11	0.7462	2.752	0.494	10	5	clayey silt to silty clay
0.26	27.80	0.8499	3.057	0.574	12	5	clayey silt to silty clay
0.33	27.01	0.8914	3.300	0.674	13	5	clayey silt to silty clay
0.39	26.86	0.9159	3.410	0.746	13	5	clayey silt to silty clay
0.46	26.50	0.9097	3.433	0.744	12	5	clayey silt to silty clay
0.52	25.31	0.9009	3.559	0.751	16	4	silty clay to clay
0.59	22.61	0.8690	3.843	0.766	15	4	silty clay to clay
0.66	21.35	0.8850	4.146	0.746	15	4	silty clay to clay
0.72	21.60	0.9035	4.182	0.727	14	4	silty clay to clay
0.79	22.31	0.8636	3.871	0.681	15	4	silty clay to clay
0.85	22.31	0.8704	3.902	0.649	12	5	clayey silt to silty clay
0.92	23.33	0.8329	3.570	0.674	13	5	clayey silt to silty clay
0.98	31.76	0.7923	2.495	0.683	13	5	clayey silt to silty clay
1.05	36.49	0.7753	2.125	0.696	13	5	clayey silt to silty clay
1.12	34.13	0.7679	2.250	0.708	13	5	clayey silt to silty clay
1.18	26.66	0.7367	2.764	0.700	13	5	clayey silt to silty clay
1.25	22.55	0.7558	3.352	0.722	12	5	clayey silt to silty clay
1.31	20.23	0.8067	3.988	0.754	15	4	silty clay to clay
1.38	18.60	0.9216	4.954	0.754	14	4	silty clay to clay
1.44	18.99	1.0431	5.493	0.734	22	3	clay
1.51	23.56	1.1757	4.990	0.742	23	3	clay
1.57	26.76	1.3010	4.861	0.751	24	3	clay
1.64	30.19	1.4212	4.708	0.737	26	3	clay
1.71	30.55	1.4787	4.841	0.722	28	3	clay
1.77	30.31	1.4926	4.925	0.708	29	3	clay
1.84	30.18	1.5647	5.185	0.693	21	4	silty clay to clay
1.90	31.27	1.5688	5.018	0.739	23	4	silty clay to clay
1.97	33.57	1.5357	4.575	0.761	24	4	silty clay to clay
2.03	42.59	1.5711	3.689	0.836	19	5	clayey silt to silty clay
2.10	48.75	1.5430	3.165	0.836	20	5	clayey silt to silty clay
2.17	47.84	1.5910	3.325	0.792	21	5	clayey silt to silty clay
2.23	45.05	1.7201	3.818	0.756	24	5	clayey silt to silty clay
2.30	43.19	2.0256	4.690	0.814	22	6	sandy silt to clayey silt
2.36	47.32	2.2065	4.663	0.899	24	6	sandy silt to clayey silt
2.43	81.88	2.2482	2.746	1.044	26	6	sandy silt to clayey silt
2.49	96.67	2.1249	2.198	1.081	26	6	sandy silt to clayey silt
2.56	85.53	2.1077	2.464	1.149	26	6	sandy silt to clayey silt
2.62	68.23	2.0518	3.007	1.190	26	6	sandy silt to clayey silt
2.69	55.46	2.0456	3.688	1.146	24	6	sandy silt to clayey silt
2.76	49.21	1.8701	3.800	1.137	27	5	clayey silt to silty clay
2.82	46.75	2.0377	4.359	1.095	25	5	clayey silt to silty clay
2.89	45.06	2.0556	4.562	1.093	24	5	clayey silt to silty clay
2.95	44.67	2.0140	4.509	1.095	23	5	clayey silt to silty clay
3.02	51.17	1.9627	3.836	1.861	23	5	clayey silt to silty clay
3.08	54.88	1.9292	3.516	1.815	23	5	clayey silt to silty clay
3.15	50.61	1.8323	3.620	1.759	24	5	clayey silt to silty clay
3.22	47.22	1.8221	3.859	1.803	25	5	clayey silt to silty clay
3.28	49.46	2.2556	4.561	1.810	25	5	clayey silt to silty clay
3.35	53.16	2.5242	4.748	1.854	27	5	clayey silt to silty clay
3.41	52.63	2.4059	4.571	1.946	29	6	sandy silt to clayey silt
3.48	53.31	2.5067	4.702	1.997	41	6	sandy silt to clayey silt
3.54	81.88	2.9564	3.611	2.259	44	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	189.39	3.3131	1.749	2.891	54	7	silty sand to sandy silt
3.67	263.43	3.5242	1.338	3.451	48	8	sand to silty sand
3.74	276.70	3.7634	1.360	3.371	54	8	sand to silty sand
3.81	277.14	3.9524	1.426	3.264	59	8	sand to silty sand
3.87	256.58	4.5073	1.757	3.446	59	8	sand to silty sand
3.94	243.10	5.1519	2.119	3.390	56	8	sand to silty sand
4.00	217.67	4.9181	2.259	3.332	69	7	silty sand to sandy silt
4.07	192.42	5.1261	2.664	3.373	62	7	silty sand to sandy silt
4.13	170.02	5.3123	3.125	3.475	57	7	silty sand to sandy silt
4.20	154.18	5.5571	3.604	3.887	62	6	sandy silt to clayey silt
4.27	136.57	5.7257	4.192	4.898	70	12	sand to clayey sand (*)
4.33	130.86	5.8858	4.498	5.353	128	11	very stiff fine grained (*)
4.40	126.81	5.7555	4.539	5.264	118	11	very stiff fine grained (*)
4.46	116.99	5.5544	4.748	5.208	108	11	very stiff fine grained (*)
4.53	102.76	5.1184	4.981	5.055	101	11	very stiff fine grained (*)
4.59	92.86	4.6960	5.057	4.975	93	11	very stiff fine grained (*)
4.66	84.57	4.3178	5.105	4.973	87	11	very stiff fine grained (*)
4.72	80.28	3.9611	4.934	4.929	82	11	very stiff fine grained (*)
4.79	78.88	3.8029	4.821	4.990	78	11	very stiff fine grained (*)
4.86	79.36	3.6346	4.580	5.004	74	11	very stiff fine grained (*)
4.92	80.09	3.6477	4.555	5.067	71	11	very stiff fine grained (*)
4.99	73.36	3.5975	4.904	4.893	68	11	very stiff fine grained (*)
5.05	66.06	3.4377	5.204	4.825	64	11	very stiff fine grained (*)
5.12	59.77	3.3857	5.665	4.716	60	11	very stiff fine grained (*)
5.18	58.09	3.1172	5.366	4.597	56	11	very stiff fine grained (*)
5.25	52.92	3.0251	5.716	4.636	54	3	clay
5.31	50.25	2.9392	5.850	4.578	53	3	clay
5.38	51.29	2.7324	5.327	4.566	35	4	silty clay to clay
5.45	54.98	2.5537	4.645	4.520	35	4	silty clay to clay
5.51	59.90	2.4497	4.089	4.382	34	4	silty clay to clay
5.58	60.40	2.5120	4.159	4.253	34	4	silty clay to clay
5.64	50.97	2.3791	4.668	4.093	33	4	silty clay to clay
5.71	49.99	2.2506	4.502	4.028	32	4	silty clay to clay
5.77	45.75	2.0408	4.461	3.880	30	4	silty clay to clay
5.84	41.95	2.0517	4.891	3.764	29	4	silty clay to clay
5.91	41.47	2.0443	4.930	3.732	28	4	silty clay to clay
5.97	43.87	1.9645	4.478	3.846	28	4	silty clay to clay
6.04	44.05	2.1469	4.874	3.926	28	4	silty clay to clay
6.10	45.00	2.1410	4.758	3.851	28	4	silty clay to clay
6.17	46.11	2.2228	4.820	3.836	27	4	silty clay to clay
6.23	44.38	2.1530	4.851	3.846	39	3	clay
6.30	38.65	1.8594	4.811	3.097	25	4	silty clay to clay
6.36	32.37	1.8244	5.636	3.061	24	4	silty clay to clay
6.43	31.84	1.5340	4.818	3.051	22	4	silty clay to clay
6.50	34.09	1.4032	4.116	2.993	31	3	clay
6.56	33.37	1.3791	4.133	3.003	29	3	clay
6.63	29.01	1.3064	4.504	3.029	28	3	clay
6.69	24.95	1.3660	5.475	2.983	26	3	clay
6.76	24.68	1.3811	5.596	2.969	25	3	clay
6.82	23.92	1.1683	4.884	2.952	23	3	clay
6.89	22.32	1.0560	4.731	2.935	22	3	clay
6.96	22.35	1.0131	4.532	2.911	21	3	clay
7.02	22.23	0.9949	4.476	2.881	19	3	clay
7.09	18.75	0.9348	4.986	2.850	18	3	clay
7.15	15.76	0.9518	6.039	2.850	18	3	clay
7.22	15.33	0.9721	6.342	2.852	18	3	clay
7.28	17.53	1.2767	7.283	2.903	20	3	clay
7.35	19.69	1.4793	7.515	2.935	22	3	clay
7.41	25.26	1.7751	7.027	2.971	26	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	32.65	2.0413	6.253	3.037	29	3	clay
7.55	38.09	2.3385	6.139	3.085	33	3	clay
7.61	39.44	2.5898	6.567	3.090	37	3	clay
7.68	40.71	2.7966	6.870	3.112	41	3	clay
7.74	43.79	2.8400	6.485	3.160	44	3	clay
7.81	49.51	2.9199	5.898	3.201	46	3	clay
7.87	55.25	2.9695	5.375	3.199	47	3	clay
7.94	56.07	2.9728	5.302	3.196	48	3	clay
8.01	51.82	2.9644	5.720	3.121	47	3	clay
8.07	47.51	2.9345	6.176	3.049	45	3	clay
8.14	43.53	2.8473	6.541	3.044	42	3	clay
8.20	38.71	2.7564	7.121	3.007	38	3	clay
8.27	34.80	2.6047	7.486	2.978	34	3	clay
8.33	31.36	2.4590	7.842	2.925	31	3	clay
8.40	27.96	2.2937	8.204	2.918	28	3	clay
8.46	26.13	2.1183	8.105	2.874	26	3	clay
8.53	24.95	1.8932	7.589	2.831	24	3	clay
8.60	23.22	1.5016	6.467	2.811	23	3	clay
8.66	22.45	1.5402	6.860	2.814	22	3	clay
8.73	21.97	1.5032	6.843	2.799	20	3	clay
8.79	20.81	1.3557	6.516	2.814	19	3	clay
8.86	18.79	1.2679	6.748	2.823	19	3	clay
8.92	16.71	1.2107	7.245	3.562	18	3	clay
8.99	17.05	1.1558	6.780	3.531	18	3	clay
9.06	17.72	1.1610	6.552	3.487	17	3	clay
9.12	18.48	1.1341	6.136	3.516	17	3	clay
9.19	19.21	1.1049	5.751	3.509	17	3	clay
9.25	18.58	1.1113	5.981	3.495	17	3	clay
9.32	18.15	1.0882	5.995	3.473	17	3	clay
9.38	17.40	1.0204	5.863	3.441	17	3	clay
9.45	16.64	0.9445	5.677	3.405	16	3	clay
9.51	15.86	0.9039	5.699	3.359	15	3	clay
9.58	15.66	0.7935	5.068	3.323	15	3	clay
9.65	15.11	0.7160	4.739	3.337	14	3	clay
9.71	13.54	0.6962	5.142	3.303	13	3	clay
9.78	12.58	0.6991	5.556	3.296	13	3	clay
9.84	11.75	0.7708	6.558	3.255	13	3	clay
9.91	11.47	0.8655	7.549	3.230	14	3	clay
9.97	12.98	0.9480	7.304	3.250	16	3	clay
10.04	18.25	1.0786	5.911	3.296	17	3	clay
10.10	23.68	1.1660	4.925	3.315	19	3	clay
10.17	24.27	1.1678	4.812	3.339	22	3	clay
10.24	24.48	1.1927	4.872	3.327	24	3	clay
10.30	27.06	1.2348	4.563	3.330	24	3	clay
10.37	29.46	1.2377	4.202	3.354	24	3	clay
10.43	27.23	1.1954	4.390	3.306	22	3	clay
10.50	21.72	0.9815	4.518	3.247	20	3	clay
10.56	17.75	0.8060	4.540	3.187	18	3	clay
10.63	14.10	0.7001	4.965	3.160	16	3	clay
10.70	11.62	0.5294	4.557	3.131	9	4	silty clay to clay
10.76	10.55	0.3844	3.645	3.133	8	4	silty clay to clay
10.83	11.92	0.2894	2.427	3.189	8	4	silty clay to clay
10.89	13.41	0.2579	1.924	3.233	7	4	silty clay to clay
10.96	12.46	0.2472	1.985	3.293	7	4	silty clay to clay
11.02	9.48	0.2253	2.378	3.310	6	4	silty clay to clay
11.09	8.18	0.2057	2.513	3.378	6	4	silty clay to clay
11.15	6.98	0.1990	2.853	3.485	5	4	silty clay to clay
11.22	5.93	0.1917	3.230	3.630	6	3	clay
11.29	5.17	0.1903	3.684	3.693	5	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	4.49	0.1876	4.181	3.805	5	3	clay
11.42	4.17	0.1838	4.404	3.938	4	3	clay
11.48	3.93	0.1876	4.776	4.054	4	3	clay
11.55	3.61	0.1900	5.256	4.168	4	3	clay
11.61	3.39	0.1934	5.696	4.289	3	3	clay
11.68	3.20	0.1889	5.909	4.401	3	3	clay
11.75	2.93	0.1808	6.163	4.495	3	2	organic material
11.81	2.64	0.1880	7.131	4.600	3	2	organic material
11.88	2.51	0.1875	7.469	4.687	2	2	organic material
11.94	2.26	0.1813	8.032	4.750	2	2	organic material
12.01	2.15	0.1752	8.136	4.842	2	2	organic material
12.07	2.06	0.1766	8.580	7.464	2	2	organic material
12.14	2.00	0.1830	9.154	7.525	2	2	organic material
12.20	1.95	0.1953	10.015	7.605	2	2	organic material
12.27	2.08	0.1991	9.571	7.791	2	2	organic material
12.34	2.70	0.2059	7.618	8.060	3	2	organic material
12.40	3.33	0.2143	6.434	8.259	3	2	organic material
12.47	3.61	0.2254	6.247	8.380	3	2	organic material
12.53	3.71	0.2544	6.858	8.467	4	2	organic material
12.60	3.93	0.2909	7.400	8.577	4	3	clay
12.66	4.06	0.3198	7.884	8.787	4	3	clay
12.73	4.56	0.3243	7.111	8.940	4	3	clay
12.80	5.26	0.3418	6.501	8.918	5	3	clay
12.86	5.60	0.3745	6.687	6.645	5	3	clay
12.93	5.60	0.3389	6.055	6.369	5	3	clay
12.99	5.70	0.3212	5.633	6.376	5	3	clay
13.06	5.98	0.3045	5.088	6.456	5	3	clay
13.12	5.80	0.2687	4.637	6.400	5	3	clay
13.19	5.35	0.2664	4.980	6.403	5	3	clay
13.25	5.18	0.2757	5.324	6.434	5	3	clay
13.32	5.10	0.2932	5.746	6.553	5	3	clay
13.39	5.19	0.2753	5.308	6.740	5	3	clay
13.45	5.39	0.2716	5.041	6.916	5	3	clay
13.52	5.30	0.2844	5.363	7.033	5	3	clay
13.58	5.40	0.3248	6.015	7.285	6	3	clay
13.65	5.68	0.3564	6.270	7.452	6	3	clay
13.71	6.51	0.3844	5.907	7.782	7	3	clay
13.78	7.54	0.3981	5.277	8.089	7	3	clay
13.85	8.39	0.4367	5.205	8.429	8	3	clay
13.91	9.48	0.4754	5.013	8.804	9	3	clay
13.98	10.46	0.5133	4.907	9.068	10	3	clay
14.04	11.17	0.5549	4.969	9.454	10	3	clay
14.11	11.44	0.5644	4.932	9.752	10	3	clay
14.17	11.49	0.5819	5.066	10.006	11	3	clay
14.24	11.31	0.5570	4.925	10.161	11	3	clay
14.30	11.00	0.5159	4.691	10.258	11	3	clay
14.37	10.89	0.5247	4.819	10.389	11	3	clay
14.44	11.00	0.5152	4.686	10.527	10	3	clay
14.50	10.84	0.5036	4.647	10.714	10	3	clay
14.57	10.81	0.4903	4.537	10.939	10	3	clay
14.63	10.90	0.4809	4.412	11.259	10	3	clay
14.70	10.89	0.4919	4.515	11.574	10	3	clay
14.76	10.77	0.4944	4.590	11.860	10	3	clay
14.83	10.75	0.4964	4.616	12.110	10	3	clay
14.90	11.05	0.5413	4.900	12.459	11	3	clay
14.96	11.13	0.5785	5.196	12.786	11	3	clay
15.03	11.03	0.5896	5.346	13.210	11	3	clay
15.09	11.34	0.6098	5.378	13.615	11	3	clay
15.16	11.60	0.5887	5.074	13.976	12	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	13.33	0.5715	4.288	23.805	12	3	clay
15.29	13.06	0.5699	4.363	24.600	12	3	clay
15.35	12.82	0.5603	4.371	25.434	12	3	clay
15.42	12.62	0.5652	4.479	26.120	12	3	clay
15.49	12.27	0.5839	4.758	26.646	12	3	clay
15.55	11.83	0.5975	5.052	27.210	12	3	clay
15.62	11.73	0.5959	5.081	27.743	11	3	clay
15.68	11.72	0.5743	4.899	28.097	11	3	clay
15.75	11.79	0.5309	4.503	28.577	11	3	clay
15.81	11.58	0.5127	4.428	29.115	11	3	clay
15.88	11.03	0.4870	4.415	29.505	11	3	clay
15.94	10.90	0.4463	4.094	30.034	11	3	clay
16.01	10.77	0.4145	3.847	30.797	10	3	clay
16.08	10.70	0.3967	3.707	31.887	10	3	clay
16.14	10.57	0.4024	3.807	32.767	10	3	clay
16.21	10.38	0.4197	4.043	33.821	10	3	clay
16.27	10.61	0.4519	4.260	35.067	10	3	clay
16.34	10.62	0.4534	4.269	35.968	10	3	clay
16.40	10.53	0.4713	4.477	37.200	10	3	clay
16.47	10.61	0.4765	4.492	37.774	10	3	clay
16.54	10.63	0.4682	4.404	38.196	10	3	clay
16.60	10.39	0.4532	4.362	38.690	10	3	clay
16.67	10.24	0.4336	4.234	39.192	10	3	clay
16.73	10.11	0.4252	4.206	39.829	10	3	clay
16.80	9.94	0.4261	4.286	40.571	10	3	clay
16.86	9.68	0.4200	4.339	41.557	10	3	clay
16.93	9.92	0.3931	3.965	42.592	10	3	clay
16.99	10.15	0.3599	3.544	43.435	10	3	clay
17.06	10.46	0.3575	3.417	44.220	10	3	clay
17.13	10.88	0.3596	3.304	44.140	7	4	silty clay to clay
17.19	10.70	0.3464	3.237	41.540	7	4	silty clay to clay
17.26	10.12	0.3341	3.301	42.204	7	4	silty clay to clay
17.32	10.37	0.3426	3.302	44.836	7	4	silty clay to clay
17.39	11.10	0.3687	3.321	46.755	7	4	silty clay to clay
17.45	11.50	0.4100	3.567	48.289	8	4	silty clay to clay
17.52	12.57	0.4542	3.612	49.872	9	4	silty clay to clay
17.59	14.57	0.5170	3.549	52.610	9	4	silty clay to clay
17.65	16.19	0.5722	3.534	52.409	10	4	silty clay to clay
17.72	17.36	0.6249	3.600	48.607	12	4	silty clay to clay
17.78	19.50	0.7501	3.847	42.817	13	4	silty clay to clay
17.85	22.39	0.8554	3.820	34.706	11	5	clayey silt to silty clay
17.91	26.09	0.9697	3.718	25.565	12	5	clayey silt to silty clay
17.98	28.93	1.0389	3.592	16.802	14	5	clayey silt to silty clay
18.04	32.27	0.9346	2.896	9.851	14	5	clayey silt to silty clay
18.11	35.92	0.9185	2.557	6.015	15	5	clayey silt to silty clay
18.18	35.04	0.9944	2.838	5.436	15	5	clayey silt to silty clay
18.24	31.00	0.9793	3.159	5.084	14	5	clayey silt to silty clay
18.31	26.77	0.8623	3.222	4.842	13	5	clayey silt to silty clay
18.37	22.25	0.7676	3.450	5.598	12	5	clayey silt to silty clay
18.44	21.67	0.7520	3.471	5.433	13	4	silty clay to clay
18.50	17.97	0.8527	4.746	5.237	18	3	clay
18.57	15.00	0.9344	6.228	5.189	16	3	clay
18.64	13.19	0.9048	6.859	5.249	16	3	clay
18.70	12.75	0.6821	5.350	5.356	12	4	silty clay to clay
18.77	15.57	0.5294	3.400	5.504	10	5	clayey silt to silty clay
18.83	22.96	0.5311	2.313	5.552	11	5	clayey silt to silty clay
18.90	31.87	0.5773	1.812	5.634	10	6	sandy silt to clayey silt
18.96	33.62	0.6006	1.786	5.489	10	6	sandy silt to clayey silt
19.03	31.35	0.6196	1.977	5.334	10	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	27.56	0.6210	2.254	5.261	10	6	sandy silt to clayey silt
19.16	22.58	0.5851	2.592	5.230	11	5	clayey silt to silty clay
19.23	17.63	0.5097	2.891	5.230	9	5	clayey silt to silty clay
19.29	14.03	0.4002	2.853	5.327	8	5	clayey silt to silty clay
19.36	11.85	0.2816	2.377	5.528	6	5	clayey silt to silty clay
19.42	10.61	0.2294	2.162	5.717	7	4	silty clay to clay
19.49	9.61	0.2103	2.189	5.894	6	4	silty clay to clay
19.55	8.47	0.1992	2.353	6.182	6	4	silty clay to clay
19.62	8.01	0.2083	2.601	6.524	5	4	silty clay to clay
19.69	7.76	0.2346	3.024	7.059	5	4	silty clay to clay
19.75	7.60	0.2446	3.218	7.418	8	3	clay
19.82	7.53	0.2569	3.412	7.825	7	3	clay
19.88	7.65	0.2773	3.627	8.220	8	3	clay
19.95	7.93	0.2696	3.398	8.603	8	3	clay
20.01	8.31	0.2572	3.095	9.025	8	3	clay
20.08	8.99	0.2636	2.931	9.623	8	3	clay
20.14	9.14	0.2813	3.079	9.922	8	3	clay
20.21	8.90	0.3345	3.758	10.135	8	3	clay
20.28	8.00	0.3656	4.568	10.350	8	3	clay
20.34	7.62	0.3791	4.973	10.755	8	3	clay
20.41	7.70	0.4115	5.347	11.298	8	3	clay
20.47	8.09	0.4465	5.522	11.875	9	3	clay
20.54	9.86	0.4361	4.425	12.316	10	3	clay
20.60	11.58	0.4441	3.836	12.287	10	3	clay
20.67	12.57	0.4186	3.330	10.775	10	3	clay
20.73	12.59	0.3767	2.992	9.861	11	3	clay
20.80	11.69	0.3828	3.275	9.478	10	3	clay
20.87	10.12	0.4028	3.981	9.219	10	3	clay
20.93	9.08	0.4100	4.515	9.204	10	3	clay
21.00	8.80	0.3764	4.279	9.386	9	3	clay
21.06	8.86	0.3682	4.155	9.679	9	3	clay
21.13	9.13	0.3842	4.208	9.931	9	3	clay
21.19	10.06	0.3942	3.920	10.154	9	3	clay
21.26	10.93	0.4278	3.915	10.317	9	3	clay
21.33	10.69	0.3739	3.496	10.377	9	3	clay
21.39	9.60	0.3484	3.630	10.457	9	3	clay
21.46	8.75	0.3175	3.628	10.527	9	3	clay
21.52	8.15	0.3083	3.782	10.685	8	3	clay
21.59	8.70	0.2993	3.441	11.851	8	3	clay
21.65	7.69	0.2733	3.556	12.078	7	3	clay
21.72	7.20	0.2563	3.561	12.427	7	3	clay
21.78	6.95	0.2495	3.592	12.924	7	3	clay
21.85	6.83	0.2487	3.641	13.319	7	3	clay
21.92	6.82	0.2489	3.646	13.748	7	3	clay
21.98	6.95	0.2395	3.444	14.204	7	3	clay
22.05	7.26	0.2431	3.347	14.616	7	3	clay
22.11	7.55	0.2406	3.188	15.083	7	3	clay
22.18	7.63	0.2273	2.979	15.425	7	3	clay
22.24	7.26	0.2377	3.275	15.900	7	3	clay
22.31	6.89	0.2783	4.040	16.375	7	3	clay
22.38	6.61	0.3042	4.601	16.903	7	3	clay
22.44	6.66	0.3128	4.697	17.628	7	3	clay
22.51	7.43	0.3192	4.299	18.297	7	3	clay
22.57	8.46	0.3166	3.742	18.849	7	3	clay
22.64	9.10	0.3175	3.490	19.203	8	3	clay
22.70	8.51	0.2923	3.435	19.281	8	3	clay
22.77	7.72	0.2491	3.227	19.429	7	3	clay
22.83	7.26	0.2227	3.067	19.848	7	3	clay
22.90	6.76	0.2061	3.047	20.631	7	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	6.45	0.1992	3.088	21.622	6	3	clay
23.03	6.33	0.1966	3.107	22.594	6	3	clay
23.10	6.21	0.2038	3.283	23.352	6	3	clay
23.16	6.04	0.2088	3.459	24.220	6	3	clay
23.23	5.73	0.2076	3.622	24.918	6	3	clay
23.29	5.68	0.1988	3.502	25.681	6	3	clay
23.36	5.71	0.2018	3.532	26.454	6	3	clay
23.43	5.72	0.2111	3.689	27.288	5	3	clay
23.49	5.75	0.2156	3.748	27.949	5	3	clay
23.56	5.77	0.2151	3.730	28.681	6	3	clay
23.62	5.79	0.2246	3.876	29.285	6	3	clay
23.69	5.76	0.2438	4.232	29.731	6	3	clay
23.75	5.82	0.2434	4.179	30.261	6	3	clay
23.82	6.04	0.2343	3.878	30.809	6	3	clay
23.88	6.62	0.2333	3.525	31.269	7	3	clay
23.95	7.07	0.2396	3.392	31.202	7	3	clay
24.02	7.73	0.2478	3.206	30.899	8	3	clay
24.08	8.60	0.2713	3.154	30.513	8	3	clay
24.15	9.30	0.3041	3.268	30.055	6	4	silty clay to clay
24.21	10.01	0.3499	3.494	28.400	6	4	silty clay to clay
24.28	10.34	0.3167	3.061	25.919	7	4	silty clay to clay
24.34	11.49	0.2927	2.549	24.588	8	4	silty clay to clay
24.41	13.24	0.4296	3.244	23.810	9	4	silty clay to clay
24.48	15.71	0.4847	3.085	22.787	7	5	clayey silt to silty clay
24.54	16.99	0.4595	2.704	17.134	7	5	clayey silt to silty clay
24.61	15.92	0.3942	2.477	12.316	7	5	clayey silt to silty clay
24.67	14.40	0.3257	2.262	10.602	7	5	clayey silt to silty clay
24.74	14.91	0.3040	2.038	9.318	9	4	silty clay to clay
24.80	12.97	0.3616	2.788	9.129	8	4	silty clay to clay
24.87	11.15	0.4442	3.984	9.049	11	3	clay
24.93	9.49	0.5190	5.469	9.192	11	3	clay
25.00	8.93	0.5268	5.898	9.597	11	3	clay
25.07	9.89	0.5017	5.072	10.198	11	3	clay
25.13	11.83	0.4471	3.778	10.731	7	4	silty clay to clay
25.20	13.63	0.3412	2.504	11.070	8	4	silty clay to clay
25.26	14.41	0.3072	2.132	11.036	8	4	silty clay to clay
25.33	13.45	0.3134	2.330	11.002	8	4	silty clay to clay
25.39	12.06	0.3516	2.915	11.177	8	4	silty clay to clay
25.46	10.17	0.3979	3.915	11.613	7	4	silty clay to clay
25.52	9.42	0.4540	4.817	12.333	10	3	clay
25.59	9.68	0.4767	4.925	13.169	10	3	clay
25.66	9.78	0.5220	5.339	13.811	9	3	clay
25.72	9.84	0.5501	5.589	14.497	9	3	clay
25.79	9.22	0.5259	5.700	14.979	9	3	clay
25.85	8.66	0.5086	5.876	15.447	9	3	clay
25.92	8.49	0.4938	5.816	15.893	8	3	clay
25.98	8.25	0.5071	6.148	16.302	8	3	clay
26.05	8.13	0.5157	6.344	16.743	9	3	clay
26.12	8.47	0.5078	5.994	17.216	9	3	clay
26.18	9.71	0.5211	5.366	17.776	10	3	clay
26.25	11.48	0.5482	4.776	18.227	11	3	clay
26.31	13.57	0.5814	4.283	18.355	12	3	clay
26.38	14.18	0.5757	4.060	16.109	13	3	clay
26.44	14.65	0.5721	3.906	13.816	10	4	silty clay to clay
26.51	16.00	0.5982	3.740	13.118	11	4	silty clay to clay
26.57	17.87	0.6331	3.543	12.292	9	5	clayey silt to silty clay
26.64	19.67	0.6058	3.080	11.208	10	5	clayey silt to silty clay
26.71	22.03	0.5418	2.459	9.987	11	5	clayey silt to silty clay
26.77	24.97	0.5222	2.092	9.650	11	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	26.91	0.5561	2.066	9.170	10	6	sandy silt to clayey silt
26.90	27.79	0.5786	2.082	8.790	10	6	sandy silt to clayey silt
26.97	27.75	0.5854	2.109	8.482	11	6	sandy silt to clayey silt
27.03	28.21	0.6065	2.150	8.283	11	6	sandy silt to clayey silt
27.10	28.69	0.5780	2.015	8.121	11	6	sandy silt to clayey silt
27.17	29.51	0.5220	1.769	7.946	11	6	sandy silt to clayey silt
27.23	30.04	0.5278	1.757	7.784	11	6	sandy silt to clayey silt
27.30	30.23	0.5579	1.845	7.658	11	6	sandy silt to clayey silt
27.36	30.08	0.5420	1.802	7.544	11	6	sandy silt to clayey silt
27.43	29.05	0.5394	1.857	7.428	11	6	sandy silt to clayey silt
27.49	27.71	0.5330	1.924	7.297	11	6	sandy silt to clayey silt
27.56	26.84	0.4813	1.793	7.232	10	6	sandy silt to clayey silt
27.62	25.43	0.4637	1.823	7.142	10	6	sandy silt to clayey silt
27.69	23.91	0.4527	1.894	7.091	9	6	sandy silt to clayey silt
27.76	22.70	0.4368	1.924	7.038	8	6	sandy silt to clayey silt
27.82	20.60	0.4009	1.946	7.004	8	6	sandy silt to clayey silt
27.89	18.75	0.3247	1.732	8.322	9	5	clayey silt to silty clay
27.95	16.18	0.3000	1.854	8.385	8	5	clayey silt to silty clay
28.02	14.16	0.3128	2.210	8.523	7	5	clayey silt to silty clay
28.08	12.60	0.3388	2.689	8.739	6	5	clayey silt to silty clay
28.15	10.64	0.3852	3.621	9.088	7	4	silty clay to clay
28.22	9.48	0.3911	4.124	9.597	7	4	silty clay to clay
28.28	9.10	0.3662	4.026	10.307	9	3	clay
28.35	8.97	0.3411	3.801	10.932	9	3	clay
28.41	8.86	0.3184	3.592	11.443	9	3	clay
28.48	8.83	0.3148	3.564	11.957	9	3	clay
28.54	8.82	0.3405	3.861	12.648	9	3	clay
28.61	8.78	0.3973	4.525	13.326	9	3	clay
28.67	8.84	0.4788	5.416	14.039	9	3	clay
28.74	9.33	0.5704	6.110	14.945	10	3	clay
28.81	10.13	0.6475	6.391	15.677	10	3	clay
28.87	11.10	0.7160	6.450	16.336	12	3	clay
28.94	12.76	0.7532	5.901	16.974	13	3	clay
29.00	14.87	0.7636	5.134	17.180	15	3	clay
29.07	17.38	0.7826	4.503	16.979	17	3	clay
29.13	19.49	0.7947	4.078	15.241	12	4	silty clay to clay
29.20	21.55	0.7766	3.604	12.032	10	5	clayey silt to silty clay
29.27	23.54	0.7213	3.064	10.086	12	5	clayey silt to silty clay
29.33	25.92	0.6654	2.567	9.747	10	6	sandy silt to clayey silt
29.40	29.33	0.5960	2.032	9.376	11	6	sandy silt to clayey silt
29.46	32.05	0.5430	1.694	8.988	12	6	sandy silt to clayey silt
29.53	34.69	0.5119	1.475	8.627	13	6	sandy silt to clayey silt
29.59	36.57	0.5455	1.492	8.339	13	6	sandy silt to clayey silt
29.66	37.45	0.6278	1.676	8.121	13	6	sandy silt to clayey silt
29.72	36.43	0.7161	1.966	7.903	13	6	sandy silt to clayey silt
29.79	33.95	0.7940	2.339	7.753	12	6	sandy silt to clayey silt
29.86	30.51	0.8339	2.733	7.646	11	6	sandy silt to clayey silt
29.92	26.58	0.8736	3.286	7.568	13	5	clayey silt to silty clay
29.99	23.74	0.9016	3.798	7.510	12	5	clayey silt to silty clay
30.05	20.87	0.8656	4.147	7.464	11	5	clayey silt to silty clay
30.12	19.10	0.7974	4.174	7.445	13	4	silty clay to clay
30.18	18.14	0.6774	3.735	7.435	12	4	silty clay to clay
30.25	17.64	0.6345	3.596	7.435	12	4	silty clay to clay
30.31	17.73	0.6787	3.827	7.462	12	4	silty clay to clay
30.38	17.95	0.7381	4.112	7.467	12	4	silty clay to clay
30.45	18.21	0.7641	4.197	7.447	12	4	silty clay to clay
30.51	18.55	0.7572	4.082	7.389	13	4	silty clay to clay
30.58	19.64	0.7262	3.698	7.358	10	5	clayey silt to silty clay
30.64	21.75	0.6369	2.928	7.314	11	5	clayey silt to silty clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	24.61	0.6044	2.456	7.234	12	5	clayey silt to silty clay
30.77	28.17	0.5154	1.830	7.142	10	6	sandy silt to clayey silt
30.84	30.48	0.5479	1.797	7.001	11	6	sandy silt to clayey silt
30.91	31.33	0.5895	1.882	6.853	11	6	sandy silt to clayey silt
30.97	31.11	0.6152	1.977	6.694	11	6	sandy silt to clayey silt
31.04	29.39	0.6535	2.223	8.560	11	6	sandy silt to clayey silt
31.10	29.69	0.6715	2.261	8.298	11	6	sandy silt to clayey silt
31.17	28.44	0.6930	2.436	8.177	11	6	sandy silt to clayey silt
31.23	27.33	0.7154	2.618	8.060	13	5	clayey silt to silty clay
31.30	25.69	0.7232	2.815	7.966	12	5	clayey silt to silty clay
31.36	24.39	0.7283	2.986	7.910	12	5	clayey silt to silty clay
31.43	22.84	0.7268	3.183	7.709	11	5	clayey silt to silty clay
31.50	21.87	0.7114	3.253	7.593	11	5	clayey silt to silty clay
31.56	21.13	0.6727	3.184	7.445	11	5	clayey silt to silty clay
31.63	20.98	0.6171	2.941	7.358	11	5	clayey silt to silty clay
31.69	21.64	0.5615	2.595	7.270	11	5	clayey silt to silty clay
31.76	23.26	0.5672	2.438	7.188	11	5	clayey silt to silty clay
31.82	25.77	0.6075	2.357	7.057	12	5	clayey silt to silty clay
31.89	26.92	0.6328	2.350	6.912	10	6	sandy silt to clayey silt
31.96	27.48	0.6399	2.329	6.771	10	6	sandy silt to clayey silt
32.02	27.57	0.6181	2.242	6.674	11	6	sandy silt to clayey silt
32.09	28.32	0.6083	2.148	6.587	11	6	sandy silt to clayey silt
32.15	29.51	0.6087	2.062	6.495	11	6	sandy silt to clayey silt
32.22	30.68	0.6267	2.042	6.400	12	6	sandy silt to clayey silt
32.28	31.59	0.6475	2.050	6.325	12	6	sandy silt to clayey silt
32.35	32.06	0.6854	2.138	6.303	12	6	sandy silt to clayey silt
32.41	32.62	0.7001	2.146	6.255	13	6	sandy silt to clayey silt
32.48	33.51	0.6979	2.083	6.223	13	6	sandy silt to clayey silt
32.55	34.53	0.7184	2.081	6.206	13	6	sandy silt to clayey silt
32.61	35.16	0.7473	2.125	6.206	13	6	sandy silt to clayey silt
32.68	35.56	0.7782	2.189	6.177	13	6	sandy silt to clayey silt
32.74	35.87	0.8223	2.293	6.180	14	6	sandy silt to clayey silt
32.81	35.64	0.8142	2.284	6.189	14	6	sandy silt to clayey silt
32.87	35.33	0.7696	2.178	6.168	14	6	sandy silt to clayey silt
32.94	35.63	0.6870	1.928	6.163	14	6	sandy silt to clayey silt
33.01	36.93	0.6848	1.855	6.168	14	6	sandy silt to clayey silt
33.07	38.56	0.7317	1.898	6.170	14	6	sandy silt to clayey silt
33.14	39.80	0.7840	1.970	6.136	14	6	sandy silt to clayey silt
33.20	39.39	0.8547	2.170	6.126	14	6	sandy silt to clayey silt
33.27	37.70	0.9069	2.406	6.105	14	6	sandy silt to clayey silt
33.33	36.46	0.9483	2.601	6.105	14	6	sandy silt to clayey silt
33.40	34.91	0.9489	2.718	6.141	13	6	sandy silt to clayey silt
33.46	32.96	0.9233	2.801	6.168	13	6	sandy silt to clayey silt
33.53	31.37	0.8905	2.839	6.206	12	6	sandy silt to clayey silt
33.60	29.84	0.8080	2.708	6.238	11	6	sandy silt to clayey silt
33.66	28.16	0.7393	2.625	6.272	13	5	clayey silt to silty clay
33.73	26.14	0.6919	2.646	6.286	12	5	clayey silt to silty clay
33.79	23.91	0.6430	2.690	6.325	11	5	clayey silt to silty clay
33.86	22.07	0.6090	2.759	6.354	10	5	clayey silt to silty clay
33.92	19.76	0.7552	3.821	6.412	13	4	silty clay to clay
33.99	17.53	0.7837	4.472	6.466	12	4	silty clay to clay
34.06	15.68	0.8079	5.154	6.575	17	3	clay
34.12	14.59	0.8555	5.863	6.807	17	3	clay
34.19	14.44	0.8442	5.846	7.164	17	3	clay
34.25	19.50	0.7724	3.962	11.722	13	4	silty clay to clay
34.32	21.57	0.6456	2.994	11.417	11	5	clayey silt to silty clay
34.38	24.06	0.6180	2.568	11.046	12	5	clayey silt to silty clay
34.45	29.66	0.6819	2.299	10.702	11	6	sandy silt to clayey silt
34.51	35.39	0.7744	2.188	10.275	12	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	37.93	0.8638	2.278	9.740	13	6	sandy silt to clayey silt
34.65	38.46	0.9079	2.361	9.461	14	6	sandy silt to clayey silt
34.71	38.62	0.9720	2.517	9.299	15	6	sandy silt to clayey silt
34.78	38.82	0.9841	2.535	9.194	15	6	sandy silt to clayey silt
34.84	39.28	0.9624	2.450	9.064	15	6	sandy silt to clayey silt
34.91	39.10	0.9517	2.434	8.998	14	6	sandy silt to clayey silt
34.97	37.43	0.8939	2.388	8.979	14	6	sandy silt to clayey silt
35.04	35.73	0.8102	2.268	9.015	13	6	sandy silt to clayey silt
35.10	32.76	0.7108	2.170	9.018	12	6	sandy silt to clayey silt
35.17	29.83	0.6557	2.198	8.986	11	6	sandy silt to clayey silt
35.24	26.70	0.6481	2.427	8.894	10	6	sandy silt to clayey silt
35.30	23.80	0.6534	2.745	8.870	12	5	clayey silt to silty clay
35.37	21.34	0.5972	2.799	8.930	11	5	clayey silt to silty clay
35.43	19.38	0.5098	2.631	9.032	10	5	clayey silt to silty clay
35.50	18.80	0.4838	2.573	9.231	10	5	clayey silt to silty clay
35.56	19.28	0.5261	2.729	9.478	9	5	clayey silt to silty clay
35.63	20.14	0.5376	2.670	9.774	9	5	clayey silt to silty clay
35.70	19.23	0.4963	2.580	9.931	8	5	clayey silt to silty clay
35.76	16.83	0.4425	2.630	10.118	8	5	clayey silt to silty clay
35.83	14.17	0.3678	2.596	10.336	7	5	clayey silt to silty clay
35.89	12.20	0.2859	2.343	10.656	6	5	clayey silt to silty clay
35.96	10.58	0.2330	2.202	11.446	7	4	silty clay to clay
36.02	9.83	0.2522	2.565	12.241	7	4	silty clay to clay
36.09	9.34	0.3106	3.326	13.254	7	4	silty clay to clay
36.15	8.94	0.3272	3.658	14.335	7	4	silty clay to clay
36.22	9.36	0.3574	3.820	15.629	7	4	silty clay to clay
36.29	11.30	0.4051	3.585	17.078	8	4	silty clay to clay
36.35	14.05	0.4375	3.115	18.275	8	4	silty clay to clay
36.42	16.27	0.4036	2.481	19.155	9	4	silty clay to clay
36.48	16.58	0.4386	2.646	19.683	9	4	silty clay to clay
36.55	15.80	0.5235	3.313	20.141	10	4	silty clay to clay
36.61	14.76	0.5532	3.748	21.283	8	5	clayey silt to silty clay
36.68	14.75	0.5423	3.677	22.463	8	5	clayey silt to silty clay
36.75	15.68	0.5126	3.269	23.958	9	5	clayey silt to silty clay
36.81	19.12	0.5897	3.084	25.419	12	4	silty clay to clay
36.88	24.28	0.7372	3.036	26.367	13	4	silty clay to clay
36.94	24.92	0.9052	3.632	25.192	13	4	silty clay to clay
37.01	20.93	0.9442	4.510	20.202	19	3	clay
37.07	18.08	0.9255	5.120	19.710	18	3	clay
37.14	16.27	0.8724	5.362	20.211	17	3	clay
37.20	15.32	0.9528	6.220	20.902	16	3	clay
37.27	15.29	0.9874	6.457	22.133	16	3	clay
37.34	15.84	0.8731	5.514	23.442	17	3	clay
37.40	16.28	0.6699	4.114	24.309	12	4	silty clay to clay
37.47	21.52	0.5911	2.747	21.862	12	4	silty clay to clay
37.53	23.46	0.6022	2.566	19.264	9	5	clayey silt to silty clay
37.60	22.17	0.5856	2.642	18.171	9	5	clayey silt to silty clay
37.66	20.46	0.6742	3.295	17.068	9	5	clayey silt to silty clay
37.73	18.04	0.6934	3.844	16.949	9	5	clayey silt to silty clay
37.80	16.46	0.6543	3.975	17.243	8	5	clayey silt to silty clay
37.86	15.46	0.4739	3.065	17.737	10	4	silty clay to clay
37.93	13.93	0.3380	2.427	18.263	10	4	silty clay to clay
37.99	14.19	0.4261	3.003	18.951	15	3	clay
38.06	14.84	0.6966	4.692	19.913	16	3	clay
38.12	16.07	0.9178	5.713	21.367	17	3	clay
38.19	18.88	1.2167	6.444	22.955	19	3	clay
38.25	22.21	1.2672	5.704	25.768	21	3	clay
38.32	25.35	1.2802	5.050	27.877	23	3	clay
38.39	29.83	1.5278	5.122	29.064	25	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
38.45	29.22	1.3495	4.618	28.250	20	4	silty clay to clay
38.52	26.11	1.0489	4.018	23.311	20	5	clayey silt to silty clay
38.58	28.70	1.0772	3.753	23.665	20	6	sandy silt to clayey silt
38.65	56.30	1.2488	2.218	26.900	23	6	sandy silt to clayey silt
38.71	90.98	1.4398	1.583	27.991	22	7	silty sand to sandy silt
38.78	97.00	1.5859	1.635	18.815	25	7	silty sand to sandy silt
38.85	94.44	1.6284	1.724	16.179	28	7	silty sand to sandy silt
38.91	90.06	1.6521	1.834	15.840	29	7	silty sand to sandy silt
38.98	88.01	1.7011	1.933	15.762	29	7	silty sand to sandy silt
39.04	86.99	1.7332	1.992	15.730	28	7	silty sand to sandy silt
39.11	86.50	1.8211	2.105	15.655	28	7	silty sand to sandy silt
39.17	87.73	1.9109	2.178	15.638	29	7	silty sand to sandy silt
39.24	90.83	2.0197	2.224	15.682	29	7	silty sand to sandy silt
39.30	92.57	2.0944	2.262	15.733	29	7	silty sand to sandy silt
39.37	92.96	2.1828	2.348	15.721	30	7	silty sand to sandy silt
39.44	94.25	2.1866	2.320	15.762	30	7	silty sand to sandy silt
39.50	95.20	2.1976	2.308	15.789	30	7	silty sand to sandy silt
39.57	96.20	2.2592	2.348	15.893	31	7	silty sand to sandy silt
39.63	97.57	2.3396	2.398	15.995	31	7	silty sand to sandy silt
39.70	99.18	2.4273	2.447	16.096	32	7	silty sand to sandy silt
39.76	100.68	2.4876	2.471	16.220	32	7	silty sand to sandy silt
39.83	102.42	2.5259	2.466	16.375	33	7	silty sand to sandy silt
39.90	104.38	2.5296	2.423	16.501	33	7	silty sand to sandy silt
39.96	106.35	2.3811	2.239	16.724	34	7	silty sand to sandy silt
40.03	108.26	2.3860	2.204	16.860	35	7	silty sand to sandy silt
40.09	110.91	2.3765	2.143	16.891	35	7	silty sand to sandy silt
40.16	112.30	2.4072	2.144	16.782	36	7	silty sand to sandy silt
40.22	113.99	2.4897	2.184	16.239	37	7	silty sand to sandy silt
40.29	115.34	2.3806	2.064	16.014	38	7	silty sand to sandy silt
40.35	126.02	2.2743	1.805	15.941	39	7	silty sand to sandy silt
40.42	134.22	2.3191	1.728	16.016	38	7	silty sand to sandy silt
40.49	127.18	2.4455	1.923	16.058	38	7	silty sand to sandy silt
40.55	116.91	2.3497	2.010	15.992	38	7	silty sand to sandy silt
40.62	109.01	2.2000	2.018	15.864	37	7	silty sand to sandy silt
40.68	105.45	2.0483	1.943	15.088	36	7	silty sand to sandy silt
40.75	106.27	1.9078	1.795	15.001	35	7	silty sand to sandy silt
40.81	109.20	1.9784	1.812	15.059	34	7	silty sand to sandy silt
40.88	107.01	2.0970	1.960	15.122	33	7	silty sand to sandy silt
40.94	103.64	2.3832	2.299	15.185	32	7	silty sand to sandy silt
41.01	99.94	2.5643	2.566	15.381	31	7	silty sand to sandy silt
41.08	93.49	2.5681	2.747	15.442	35	6	sandy silt to clayey silt
41.14	85.10	2.4987	2.936	15.435	35	6	sandy silt to clayey silt
41.21	77.84	2.3034	2.959	15.398	35	6	sandy silt to clayey silt
41.27	80.88	2.1631	2.674	15.326	35	6	sandy silt to clayey silt
41.34	97.46	2.1877	2.245	15.430	30	7	silty sand to sandy silt
41.40	106.66	2.3032	2.159	15.580	31	7	silty sand to sandy silt
41.47	107.05	2.4309	2.271	15.815	32	7	silty sand to sandy silt
41.54	106.50	2.5493	2.394	16.581	33	7	silty sand to sandy silt
41.60	105.52	2.5094	2.378	16.809	34	7	silty sand to sandy silt
41.67	105.17	2.3750	2.258	16.579	33	7	silty sand to sandy silt
41.73	104.02	2.2272	2.141	16.307	33	7	silty sand to sandy silt
41.80	102.01	2.1720	2.129	16.169	32	7	silty sand to sandy silt
41.86	100.76	2.0989	2.083	16.172	32	7	silty sand to sandy silt
41.93	98.80	2.0607	2.086	16.164	31	7	silty sand to sandy silt
41.99	95.08	2.0743	2.182	16.181	29	7	silty sand to sandy silt
42.06	89.28	2.1062	2.359	16.092	28	7	silty sand to sandy silt
42.13	81.51	2.1220	2.604	16.070	32	6	sandy silt to clayey silt
42.19	74.40	2.0949	2.816	16.016	30	6	sandy silt to clayey silt
42.26	70.85	2.0173	2.847	16.002	29	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
42.32	70.35	1.9039	2.706	16.031	29	6	sandy silt to clayey silt
42.39	72.18	1.8339	2.541	16.351	30	6	sandy silt to clayey silt
42.45	76.23	1.9935	2.615	17.580	31	6	sandy silt to clayey silt
42.52	83.23	2.2139	2.660	18.772	33	6	sandy silt to clayey silt
42.59	92.49	2.4155	2.611	19.845	29	7	silty sand to sandy silt
42.65	99.86	2.4037	2.407	20.255	31	7	silty sand to sandy silt
42.72	101.38	2.1328	2.104	20.374	32	7	silty sand to sandy silt
42.78	106.68	2.0903	1.959	20.376	35	7	silty sand to sandy silt
42.85	111.37	2.1932	1.969	19.799	37	7	silty sand to sandy silt
42.91	117.13	2.2611	1.930	13.615	40	7	silty sand to sandy silt
42.98	134.70	2.4683	1.833	9.362	43	7	silty sand to sandy silt
43.04	150.13	2.9360	1.956	9.049	46	7	silty sand to sandy silt
43.11	159.47	3.5230	2.209	8.887	48	7	silty sand to sandy silt
43.18	164.88	3.7961	2.302	8.744	52	7	silty sand to sandy silt
43.24	166.73	3.9442	2.366	8.632	55	7	silty sand to sandy silt
43.31	168.74	4.1738	2.474	8.618	60	7	silty sand to sandy silt
43.37	185.07	4.3696	2.361	8.862	65	7	silty sand to sandy silt
43.44	217.97	4.8517	2.226	9.766	69	7	silty sand to sandy silt
43.50	247.53	4.7573	1.922	10.503	74	7	silty sand to sandy silt
43.57	264.75	5.1094	1.930	9.730	58	8	sand to silty sand
43.64	269.17	5.3831	2.000	8.998	60	8	sand to silty sand
43.70	265.95	5.5839	2.100	8.746	60	8	sand to silty sand
43.77	257.51	5.6251	2.184	8.778	79	7	silty sand to sandy silt
43.83	232.49	5.6235	2.419	12.706	77	7	silty sand to sandy silt
43.90	229.83	5.4252	2.361	12.866	73	7	silty sand to sandy silt
43.96	218.76	5.2771	2.412	13.067	69	7	silty sand to sandy silt
44.03	206.37	5.1152	2.479	13.242	66	7	silty sand to sandy silt
44.09	194.44	4.7293	2.432	13.477	63	7	silty sand to sandy silt
44.16	184.55	4.3783	2.372	13.574	60	7	silty sand to sandy silt
44.23	175.23	4.0657	2.320	13.731	57	7	silty sand to sandy silt
44.29	167.70	3.7649	2.245	13.838	55	7	silty sand to sandy silt
44.36	164.71	3.5397	2.149	13.966	53	7	silty sand to sandy silt
44.42	162.03	3.3243	2.052	14.075	52	7	silty sand to sandy silt
44.49	159.59	3.2875	2.060	14.269	51	7	silty sand to sandy silt
44.55	158.99	3.2800	2.063	14.511	51	7	silty sand to sandy silt
44.62	158.00	3.1919	2.020	14.589	51	7	silty sand to sandy silt
44.69	156.89	3.1324	1.997	14.720	52	7	silty sand to sandy silt
44.75	160.01	3.2104	2.006	14.824	53	7	silty sand to sandy silt
44.82	167.46	3.2449	1.938	14.974	55	7	silty sand to sandy silt
44.88	177.20	3.2999	1.862	15.149	43	8	sand to silty sand
44.95	187.74	3.3776	1.799	15.360	44	8	sand to silty sand
45.01	194.42	3.5400	1.821	15.590	46	8	sand to silty sand
45.08	199.77	3.6629	1.834	15.837	47	8	sand to silty sand
45.14	203.10	3.6748	1.809	15.961	47	8	sand to silty sand
45.21	203.44	3.7274	1.832	16.087	48	8	sand to silty sand
45.28	201.26	3.6978	1.837	16.159	48	8	sand to silty sand
45.34	198.42	3.6970	1.863	16.264	47	8	sand to silty sand
45.41	196.31	3.6609	1.865	16.315	47	8	sand to silty sand
45.47	191.37	3.4979	1.828	16.266	46	8	sand to silty sand
45.54	186.88	3.3865	1.812	16.205	45	8	sand to silty sand
45.60	182.88	3.2943	1.801	16.186	44	8	sand to silty sand
45.67	178.08	3.2279	1.813	16.191	43	8	sand to silty sand
45.73	173.76	3.1633	1.821	16.176	42	8	sand to silty sand
45.80	169.76	3.0149	1.776	16.184	41	8	sand to silty sand
45.87	167.15	2.9047	1.738	16.213	40	8	sand to silty sand
45.93	163.66	2.7678	1.691	16.215	39	8	sand to silty sand
46.00	160.37	2.6136	1.630	16.210	38	8	sand to silty sand
46.06	156.18	2.5030	1.603	16.237	37	8	sand to silty sand
46.13	151.47	2.3980	1.583	16.201	37	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
46.19	148.58	2.2942	1.544	16.186	36	8	sand to silty sand
46.26	147.12	2.2134	1.504	16.222	36	8	sand to silty sand
46.33	147.03	2.1402	1.456	16.249	36	8	sand to silty sand
46.39	148.28	2.0940	1.412	16.271	36	8	sand to silty sand
46.46	150.89	2.0325	1.347	16.327	37	8	sand to silty sand
46.52	154.59	1.9565	1.266	16.394	37	8	sand to silty sand
46.59	159.20	1.8806	1.181	16.460	37	8	sand to silty sand
46.65	161.57	1.8685	1.156	16.559	38	8	sand to silty sand
46.72	161.87	2.0876	1.290	16.605	37	8	sand to silty sand
46.78	158.89	1.7978	1.131	16.622	37	8	sand to silty sand
46.85	153.11	1.7181	1.122	16.625	36	8	sand to silty sand
46.92	145.09	1.6482	1.136	16.610	34	8	sand to silty sand
46.98	137.64	1.5599	1.133	16.593	32	8	sand to silty sand
47.05	121.38	1.4729	1.213	16.487	31	8	sand to silty sand
47.11	118.29	1.4178	1.199	16.431	29	8	sand to silty sand
47.18	112.48	1.5288	1.359	16.394	28	8	sand to silty sand
47.24	108.21	1.4136	1.306	16.363	27	8	sand to silty sand
47.31	105.72	1.1645	1.101	16.353	28	8	sand to silty sand
47.38	110.59	2.5568	2.312	16.399	29	8	sand to silty sand
47.44	124.20	1.4755	1.188	16.494	31	8	sand to silty sand
47.51	140.82	1.6670	1.184	16.455	43	7	silty sand to sandy silt
47.57	160.51	2.2564	1.406	16.424	46	7	silty sand to sandy silt
47.64	159.37	3.3969	2.131	16.348	48	7	silty sand to sandy silt
47.70	141.30	3.6371	2.574	15.617	48	7	silty sand to sandy silt
47.77	173.53	3.8782	2.235	16.268	46	7	silty sand to sandy silt
47.83	143.47	3.3653	2.346	16.356	44	7	silty sand to sandy silt
47.90	137.76	2.8167	2.045	16.853	43	7	silty sand to sandy silt
47.97	103.21	1.9570	1.896	17.311	44	7	silty sand to sandy silt
48.03	111.39	3.1169	2.798	17.315	47	7	silty sand to sandy silt
48.10	133.46	3.6764	2.755	17.376	38	8	sand to silty sand
48.16	171.18	2.3735	1.387	17.701	42	8	sand to silty sand
48.23	221.85	2.2329	1.007	18.263	47	8	sand to silty sand
48.29	239.17	2.0873	0.873	18.612	49	8	sand to silty sand
48.36	249.99	3.1466	1.259	18.127	49	8	sand to silty sand
48.43	233.11	4.0484	1.737	17.194	48	8	sand to silty sand
48.49	179.16	3.6410	2.032	18.895	57	7	silty sand to sandy silt
48.56	144.37	3.6348	2.518	18.139	50	7	silty sand to sandy silt
48.62	121.74	3.6487	2.997	16.176	51	6	sandy silt to clayey silt
48.69	84.95	3.9101	4.603	17.638	43	6	sandy silt to clayey silt
48.75	83.08	4.2930	5.167	19.320	47	5	clayey silt to silty clay
48.82	86.61	4.2208	4.873	25.906	43	5	clayey silt to silty clay
48.88	87.31	3.9908	4.571	28.664	41	5	clayey silt to silty clay
48.95	83.63	3.3619	4.020	28.829	0	0	<out of range>
49.02	83.17	3.2089	3.858	25.133	0	0	<out of range>
49.08	91.33	2.0824	2.280	22.928	36	8	sand to silty sand
49.15	119.11	-32768	-32768	21.249	0	0	<out of range>
49.21	164.36	-32768	-32768	20.589	0	0	<out of range>
49.28	180.89	-32768	-32768	16.707	0	0	<out of range>
49.34	198.20	-32768	-32768	11.780	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee)
Project No: 60095742

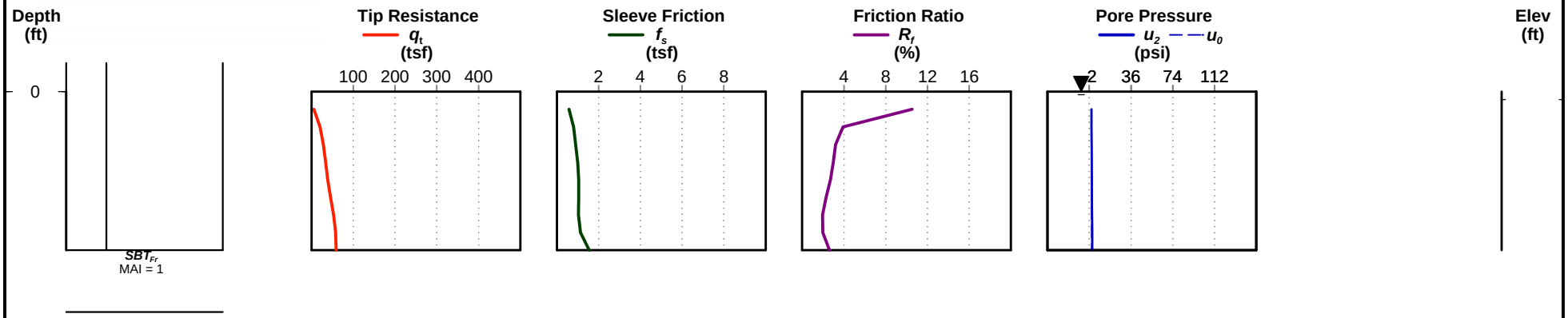
Cone Penetration Test

09-212-C2

Date: Mar. 7, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 556308.33
Easting: 2442519.2
Elevation: 752.03 NGVD

Total Depth: 0.6 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



09-212-C2

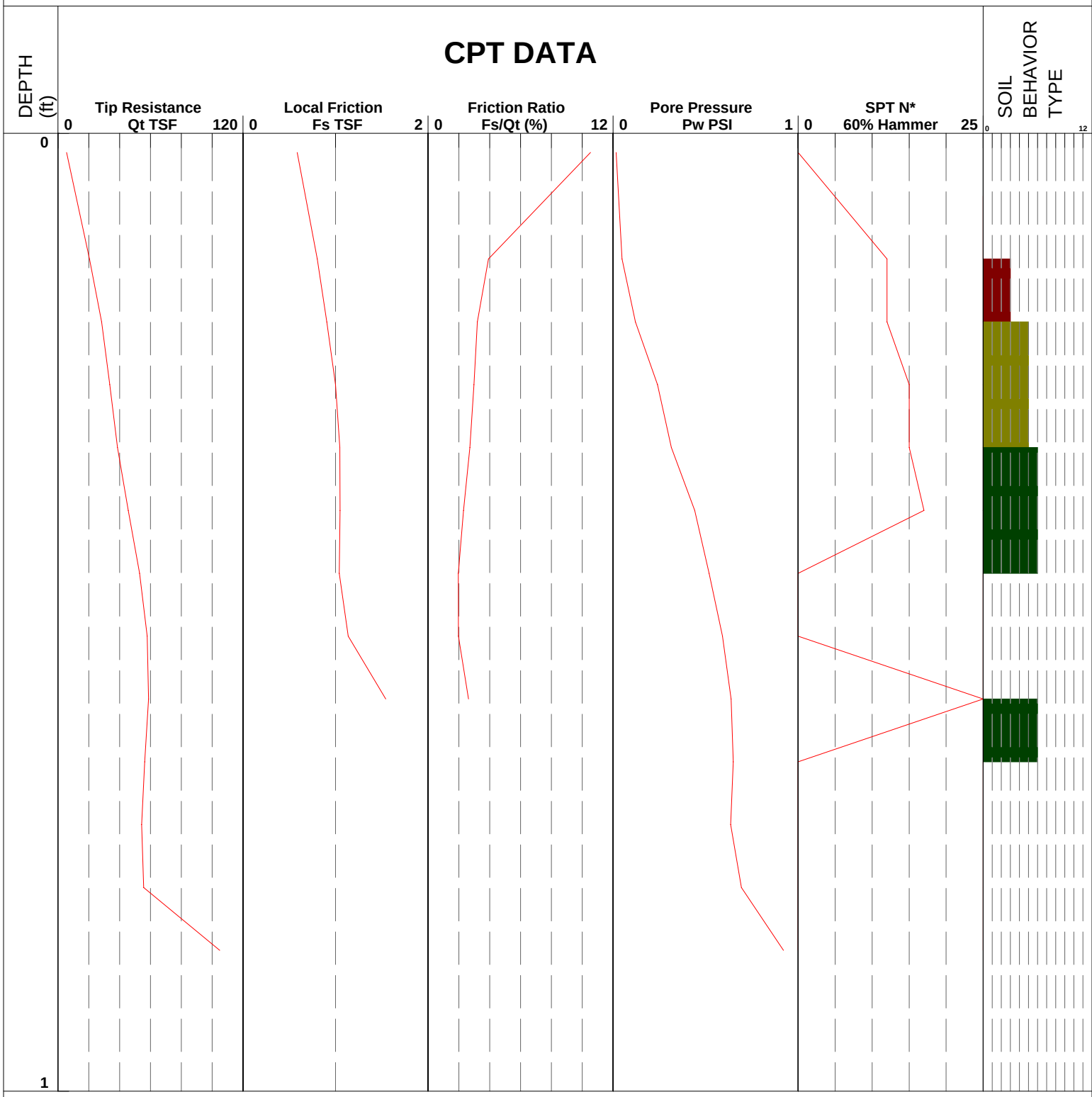
Electronic Filename: 09-212-C2.cpt

CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/30/09

AECOM

09-212-C2	60095742	3/7/2009 10:42:32 AM
DSG0870	TVA-Kingston	Mobile 57/CAP

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-212-C2 3/7/2009 10:42:32 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	5.56	0.5858	10.535	0.017	0	0	<out of range>
0.13	20.48	0.8025	3.919	0.048	12	3	clay
0.20	28.31	0.9053	3.198	0.121	12	5	clayey silt to silty clay
0.26	33.60	1.0001	2.976	0.240	15	5	clayey silt to silty clay
0.33	38.64	1.0466	2.709	0.315	15	6	sandy silt to clayey silt
0.39	45.63	1.0497	2.301	0.441	17	6	sandy silt to clayey silt
0.46	52.96	1.0401	1.964	0.519	0	0	<out of range>
0.52	57.83	1.1368	1.966	0.591	0	0	<out of range>
0.59	58.78	1.5426	2.624	0.637	25	6	sandy silt to clayey silt
0.66	56.29	-32768	-32768	0.649	0	0	<out of range>
0.72	54.22	-32768	-32768	0.635	0	0	<out of range>
0.79	55.60	-32768	-32768	0.693	0	0	<out of range>
0.85	104.91	-32768	-32768	0.921	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

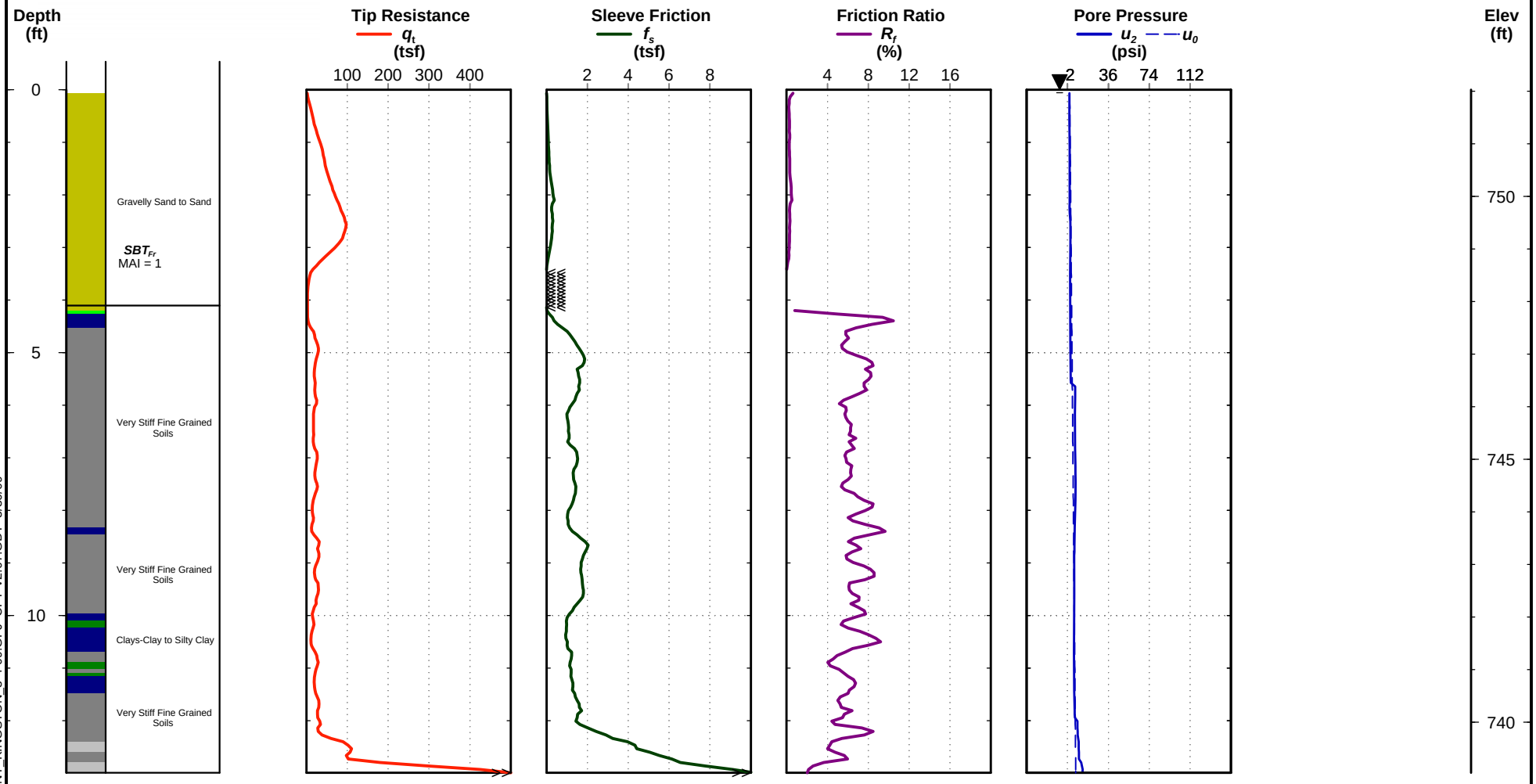
09-212-C3

Project No: 60095742

Date: Mar. 7, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 556308.33
Easting: 2442519.2
Elevation: 752.03 NGVD

Total Depth: 13.0 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/30/09

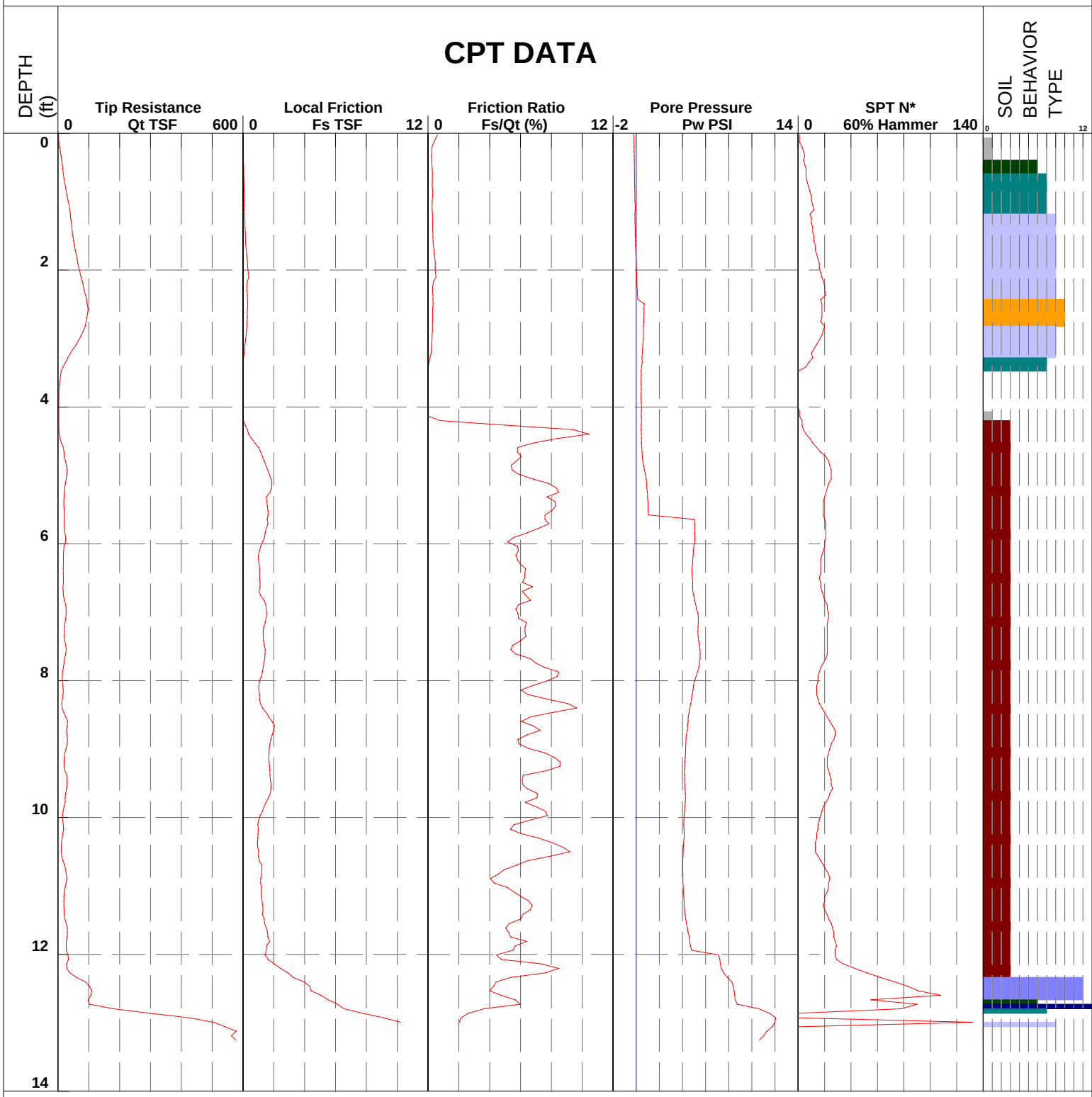
09-212-C3

Electronic Filename: 09-212-C3.cpt

AECOM

09-212-C3	60095742	3/7/2009 10:55:27 AM
DSG0870	TVA-Kingston	Mobile 57/CAP

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-212-C3 3/7/2009 10:55:27 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	1.75	0.0108	0.618	-0.194	1	1	sensitive fine grained
0.13	3.12	0.0117	0.374	-0.184	1	1	sensitive fine grained
0.20	5.23	0.0135	0.258	-0.184	3	1	sensitive fine grained
0.26	7.68	0.0193	0.252	-0.179	4	1	sensitive fine grained
0.33	9.76	0.0217	0.222	-0.170	5	1	sensitive fine grained
0.39	12.04	0.0279	0.231	-0.158	4	6	sandy silt to clayey silt
0.46	13.83	0.0346	0.250	-0.155	5	6	sandy silt to clayey silt
0.52	15.77	0.0425	0.270	-0.153	6	6	sandy silt to clayey silt
0.59	17.28	0.0483	0.280	-0.148	6	7	silty sand to sandy silt
0.66	19.33	0.0533	0.276	-0.145	6	7	silty sand to sandy silt
0.72	21.93	0.0604	0.275	-0.138	7	7	silty sand to sandy silt
0.79	24.64	0.0665	0.270	-0.126	8	7	silty sand to sandy silt
0.85	26.89	0.0841	0.313	-0.119	9	7	silty sand to sandy silt
0.92	29.60	0.0875	0.295	-0.111	10	7	silty sand to sandy silt
0.98	32.85	0.0886	0.270	-0.114	10	7	silty sand to sandy silt
1.05	35.79	0.0943	0.264	-0.090	11	7	silty sand to sandy silt
1.12	37.83	0.0997	0.264	-0.090	12	7	silty sand to sandy silt
1.18	40.16	0.1126	0.280	-0.111	9	8	sand to silty sand
1.25	41.45	0.1161	0.280	-0.104	10	8	sand to silty sand
1.31	43.42	0.1285	0.296	-0.102	10	8	sand to silty sand
1.38	44.99	0.1334	0.296	-0.087	11	8	sand to silty sand
1.44	46.33	0.1458	0.315	-0.085	11	8	sand to silty sand
1.51	48.65	0.1517	0.312	-0.061	12	8	sand to silty sand
1.57	50.71	0.1645	0.324	-0.056	12	8	sand to silty sand
1.64	53.27	0.1826	0.343	-0.056	13	8	sand to silty sand
1.71	55.84	0.2139	0.383	-0.036	13	8	sand to silty sand
1.77	59.29	0.2381	0.402	-0.029	14	8	sand to silty sand
1.84	62.51	0.2798	0.448	-0.007	15	8	sand to silty sand
1.90	64.23	0.2935	0.457	-0.002	16	8	sand to silty sand
1.97	67.97	0.3113	0.458	0.007	16	8	sand to silty sand
2.03	71.43	0.3415	0.478	0.032	17	8	sand to silty sand
2.10	74.69	0.3884	0.520	0.032	18	8	sand to silty sand
2.17	78.95	0.2841	0.360	0.053	19	8	sand to silty sand
2.23	82.36	0.2510	0.305	0.061	20	8	sand to silty sand
2.30	84.86	0.2439	0.287	0.102	20	8	sand to silty sand
2.36	88.91	0.2849	0.320	0.104	21	8	sand to silty sand
2.43	92.87	0.2892	0.311	0.145	17	9	sand
2.49	94.46	0.3106	0.329	0.693	18	9	sand
2.56	97.42	0.2925	0.300	0.674	18	9	sand
2.62	96.45	0.2746	0.285	0.681	18	9	sand
2.69	93.60	0.2849	0.304	0.664	18	9	sand
2.76	90.60	0.2571	0.284	0.649	17	9	sand
2.82	88.49	0.2505	0.283	0.625	20	8	sand to silty sand
2.89	82.27	0.2308	0.281	0.625	19	8	sand to silty sand
2.95	75.59	0.2007	0.266	0.613	18	8	sand to silty sand
3.02	67.93	0.1744	0.257	0.613	16	8	sand to silty sand
3.08	59.43	0.1324	0.223	0.572	14	8	sand to silty sand
3.15	49.70	0.1121	0.226	0.553	12	8	sand to silty sand
3.22	40.25	0.0785	0.195	0.514	10	8	sand to silty sand
3.28	31.99	0.0384	0.120	0.497	11	7	silty sand to sandy silt
3.35	24.93	0.0176	0.070	0.514	8	7	silty sand to sandy silt
3.41	16.21	0.0016	0.010	0.456	6	7	silty sand to sandy silt
3.48	10.45	-0.0117	-0.112	0.422	0	0	<out of range>
3.54	8.14	-0.0196	-0.241	0.446	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	6.43	-0.0233	-0.362	0.407	0	0	<out of range>
3.67	4.88	-0.0229	-0.469	0.424	0	0	<out of range>
3.74	3.75	-0.0239	-0.637	0.453	0	0	<out of range>
3.81	3.15	-0.0244	-0.777	0.410	0	0	<out of range>
3.87	2.78	-0.0220	-0.793	0.414	0	0	<out of range>
3.94	2.54	-0.0213	-0.838	0.431	0	0	<out of range>
4.00	2.65	-0.0213	-0.802	0.468	0	0	<out of range>
4.07	2.83	-0.0191	-0.675	0.441	1	1	sensitive fine grained
4.13	2.64	-0.0019	-0.073	0.439	1	1	sensitive fine grained
4.20	2.75	0.0221	0.803	0.468	3	3	clay
4.27	2.83	0.1418	5.008	0.424	3	3	clay
4.33	3.02	0.2836	9.394	0.431	4	3	clay
4.40	3.54	0.3702	10.446	0.446	6	3	clay
4.46	6.48	0.5429	8.380	0.458	9	3	clay
4.53	11.40	0.7760	6.809	0.453	11	3	clay
4.59	17.36	1.0086	5.809	0.480	14	3	clay
4.66	19.76	1.1438	5.790	0.511	17	3	clay
4.72	20.97	1.2700	6.056	0.519	21	3	clay
4.79	24.28	1.3865	5.711	0.574	23	3	clay
4.86	27.71	1.4931	5.389	0.642	24	3	clay
4.92	29.39	1.6015	5.450	0.703	25	3	clay
4.99	28.94	1.7122	5.916	0.809	25	3	clay
5.05	26.57	1.8116	6.818	0.860	25	3	clay
5.12	23.97	1.8716	7.807	0.899	23	3	clay
5.18	22.17	1.8479	8.337	0.926	22	3	clay
5.25	20.74	1.7555	8.464	0.977	21	3	clay
5.31	19.55	1.5055	7.700	0.981	20	3	clay
5.38	18.87	1.5521	8.224	1.003	19	3	clay
5.45	19.06	1.5767	8.274	1.028	19	3	clay
5.51	20.13	1.6180	8.039	1.035	19	3	clay
5.58	21.44	1.6262	7.586	1.057	19	3	clay
5.64	20.71	1.5701	7.581	5.038	20	3	clay
5.71	20.62	1.6160	7.836	5.048	21	3	clay
5.77	20.95	1.4988	7.153	5.058	21	3	clay
5.84	22.48	1.4438	6.423	5.050	21	3	clay
5.91	24.94	1.3909	5.577	5.082	21	3	clay
5.97	24.63	1.2713	5.162	5.063	20	3	clay
6.04	19.76	1.1459	5.798	4.992	20	3	clay
6.10	18.39	1.0777	5.859	4.937	19	3	clay
6.17	17.49	0.9956	5.693	4.929	18	3	clay
6.23	17.35	1.0076	5.807	4.883	17	3	clay
6.30	17.52	1.0507	5.996	4.866	17	3	clay
6.36	17.00	1.0774	6.336	4.815	17	3	clay
6.43	17.21	1.0795	6.271	4.835	17	3	clay
6.50	17.17	1.0769	6.272	4.852	16	3	clay
6.56	18.04	1.1033	6.114	4.874	17	3	clay
6.63	16.37	1.1109	6.784	4.869	17	3	clay
6.69	16.90	1.0337	6.116	4.893	18	3	clay
6.76	18.11	1.1520	6.362	4.975	19	3	clay
6.82	20.53	1.3643	6.644	5.038	20	3	clay
6.89	25.10	1.4733	5.870	5.135	22	3	clay
6.96	26.37	1.5008	5.691	5.213	22	3	clay
7.02	26.24	1.5290	5.828	5.339	23	3	clay
7.09	25.50	1.4984	5.877	5.375	23	3	clay
7.15	22.66	1.4457	6.381	5.358	22	3	clay
7.22	21.33	1.3421	6.293	5.346	22	3	clay
7.28	20.82	1.3062	6.274	5.334	22	3	clay
7.35	20.64	1.3108	6.350	5.353	22	3	clay
7.41	22.16	1.3321	6.012	5.397	22	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	25.19	1.3857	5.502	5.443	22	3	clay
7.55	26.97	1.4445	5.356	5.513	22	3	clay
7.61	25.09	1.4270	5.688	5.521	22	3	clay
7.68	21.34	1.4137	6.624	5.533	21	3	clay
7.74	19.39	1.3531	6.978	5.467	19	3	clay
7.81	17.32	1.3129	7.579	5.404	17	3	clay
7.87	14.77	1.2528	8.481	5.295	16	3	clay
7.94	14.16	1.1844	8.366	5.176	15	3	clay
8.01	14.01	1.0767	7.684	5.026	15	3	clay
8.07	15.19	1.0320	6.793	4.961	14	3	clay
8.14	17.03	1.0277	6.033	4.907	14	3	clay
8.20	16.41	1.0637	6.481	4.840	14	3	clay
8.27	13.83	1.0636	7.690	4.786	15	3	clay
8.33	12.55	1.1352	9.047	4.716	16	3	clay
8.40	13.16	1.2688	9.641	4.629	18	3	clay
8.46	18.56	1.5000	8.080	4.563	20	3	clay
8.53	25.14	1.6693	6.640	4.495	22	3	clay
8.60	31.34	1.8953	6.047	4.481	24	3	clay
8.66	29.89	2.0371	6.815	4.440	26	3	clay
8.73	27.25	1.9835	7.278	4.423	28	3	clay
8.79	29.59	1.8943	6.403	4.319	28	3	clay
8.86	30.94	1.8010	5.822	4.302	27	3	clay
8.92	29.74	1.7532	5.895	4.297	25	3	clay
8.99	25.98	1.6941	6.520	4.273	24	3	clay
9.06	22.39	1.6935	7.565	4.260	23	3	clay
9.12	20.47	1.6772	8.195	4.243	22	3	clay
9.19	19.73	1.6890	8.563	4.200	22	3	clay
9.25	20.07	1.7190	8.563	4.185	22	3	clay
9.32	22.82	1.7452	7.648	4.159	23	3	clay
9.38	28.42	1.7527	6.166	4.183	24	3	clay
9.45	28.99	1.7691	6.103	4.168	25	3	clay
9.51	29.48	1.8082	6.133	4.209	25	3	clay
9.58	28.04	1.8059	6.441	4.214	26	3	clay
9.65	25.00	1.7718	7.086	4.243	24	3	clay
9.71	23.30	1.6477	7.073	4.265	23	3	clay
9.78	23.72	1.4945	6.301	4.246	21	3	clay
9.84	19.39	1.3572	7.000	4.207	19	3	clay
9.91	16.65	1.2692	7.624	4.173	18	3	clay
9.97	14.44	1.1169	7.735	4.137	17	3	clay
10.04	15.36	1.0131	6.597	4.122	16	3	clay
10.10	17.30	0.9675	5.593	4.108	15	3	clay
10.17	18.41	0.9832	5.339	4.137	15	3	clay
10.24	16.13	0.9719	6.024	4.156	14	3	clay
10.30	13.50	0.9694	7.180	4.132	14	3	clay
10.37	11.65	0.9374	8.043	4.100	13	3	clay
10.43	10.90	0.9531	8.746	4.079	13	3	clay
10.50	11.08	1.0196	9.198	4.062	13	3	clay
10.56	12.68	1.0076	7.945	4.052	15	3	clay
10.63	16.26	1.0507	6.460	4.023	17	3	clay
10.70	21.42	1.2299	5.742	4.016	19	3	clay
10.76	24.96	1.2326	4.938	4.018	21	3	clay
10.83	26.55	1.2068	4.546	4.033	23	3	clay
10.89	28.63	1.1536	4.029	4.030	24	3	clay
10.96	26.50	1.1368	4.290	4.037	23	3	clay
11.02	23.39	1.2013	5.135	4.067	23	3	clay
11.09	21.51	1.1999	5.578	4.074	22	3	clay
11.15	19.74	1.1896	6.028	4.115	20	3	clay
11.22	18.92	1.2387	6.548	4.134	20	3	clay
11.29	19.08	1.2881	6.752	4.139	19	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	19.56	1.2930	6.610	4.173	20	3	clay
11.42	20.68	1.2684	6.135	4.226	22	3	clay
11.48	22.83	1.3752	6.024	4.280	23	3	clay
11.55	26.77	1.4119	5.274	4.345	25	3	clay
11.61	29.94	1.5041	5.024	4.423	26	3	clay
11.68	30.59	1.6008	5.233	4.491	27	3	clay
11.75	30.17	1.6138	5.349	4.585	27	3	clay
11.81	26.89	1.7216	6.401	4.631	28	3	clay
11.88	27.03	1.5298	5.660	4.677	29	3	clay
11.94	27.39	1.5043	5.491	4.803	28	3	clay
12.01	32.36	1.4341	4.432	7.118	28	3	clay
12.07	34.45	1.6359	4.749	7.234	29	3	clay
12.14	27.50	2.0225	7.355	7.270	34	3	clay
12.20	28.68	2.4289	8.469	7.348	43	3	clay
12.27	38.21	2.9085	7.612	7.561	52	3	clay
12.34	60.02	3.2403	5.399	7.864	62	11	very stiff fine grained (*)
12.40	89.61	3.9616	4.421	8.278	73	11	very stiff fine grained (*)
12.47	102.12	4.3335	4.243	8.385	83	11	very stiff fine grained (*)
12.53	110.34	4.4115	3.998	8.472	91	11	very stiff fine grained (*)
12.60	106.67	5.0571	4.741	8.511	108	11	very stiff fine grained (*)
12.66	97.77	5.5166	5.642	8.552	55	6	sandy silt to clayey silt
12.73	102.42	6.1271	5.982	8.734	90	12	sand to clayey sand (*)
12.80	180.00	6.5505	3.639	10.605	78	7	silty sand to sandy silt
12.86	298.51	7.7738	2.604	11.523	0	0	<out of range>
12.93	426.24	9.1263	2.141	12.064	0	0	<out of range>
12.99	504.31	10.2225	2.027	11.974	132	8	sand to silty sand
13.06	542.51	-32768	-32768	11.766	0	0	<out of range>
13.12	578.56	-32768	-32768	11.286	0	0	<out of range>
13.19	561.83	-32768	-32768	11.019	0	0	<out of range>
13.25	577.26	-32768	-32768	10.644	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983

AECOM

TVA Kingston Coal Ash Pond RCA (Kingston,Tennessee) Cone Penetration Test

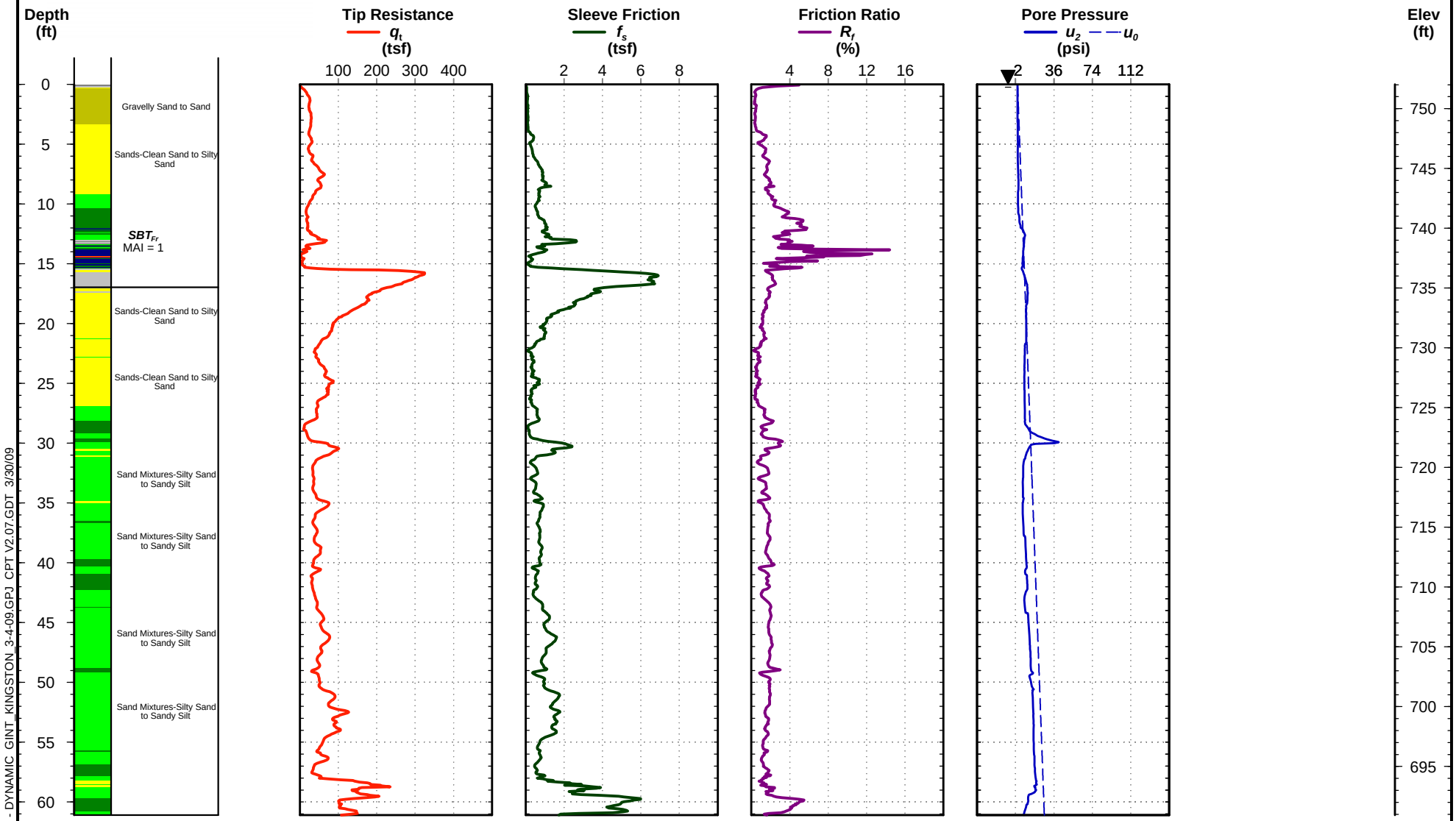
09-212-C4

Project No: 60095742

Date: Mar. 7, 2009
Estimated Water Depth: 0 ft
Rig/Operator: Mobile 57/CAP

Northing: 556308.33
Easting: 2442519.2
Elevation: 752.03 NGVD

Total Depth: 61.1 ft
Termination Criteria: Refusal
Cone Size: 10T Tension Cone



CPT REPORT - DYNAMIC GINT_KINGSTON_3-4-09.GPJ CPT V2.07.GDT 3/30/09

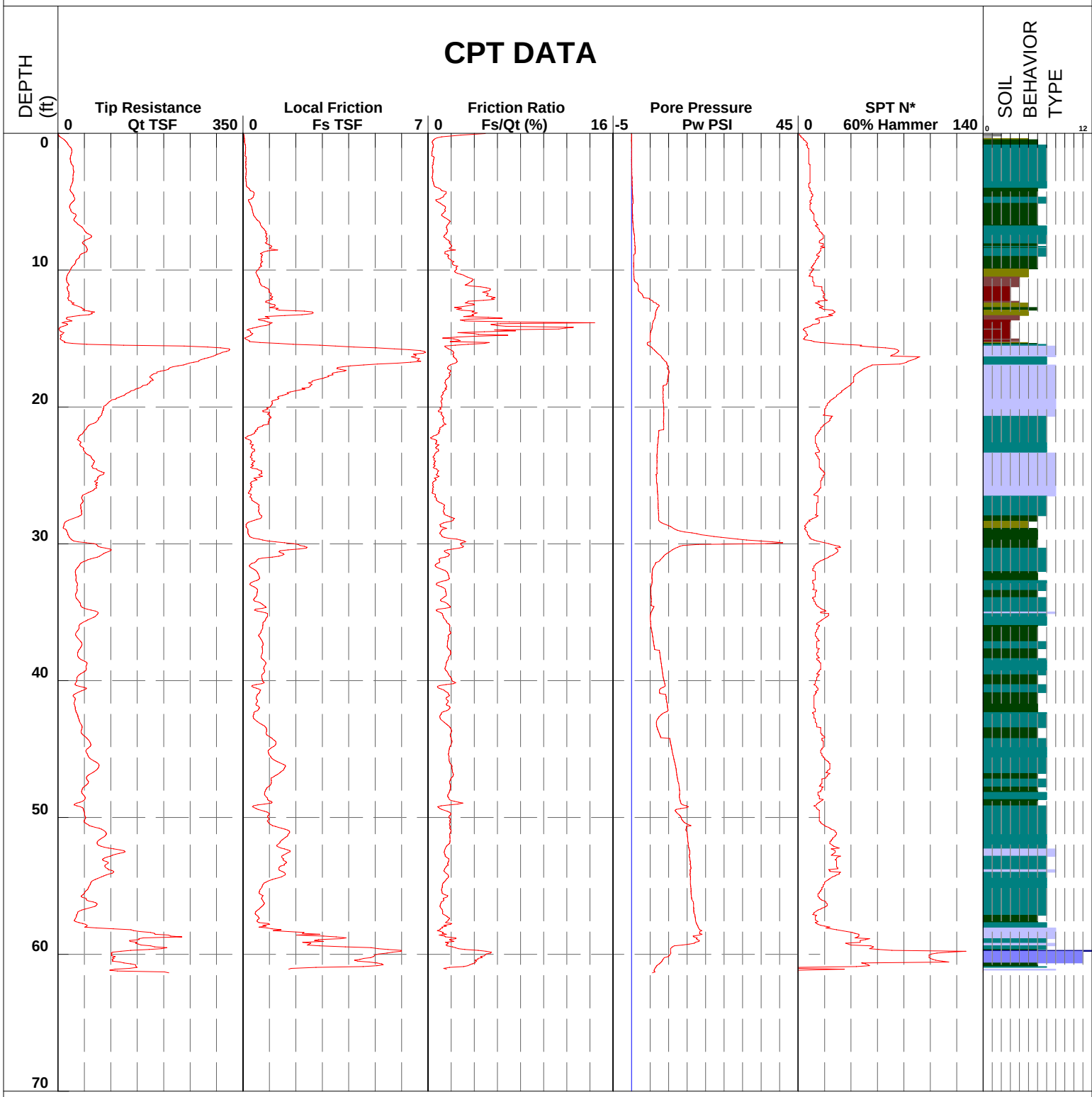
09-212-C4

Electronic Filename: 09-212-C4.cpt

AECOM

09-212-C4	60095742	3/7/2009 11:49:18 AM
DSG0870	TVA-Kingston	Mobile 57/CAP

NOTE: pre-drilled to 15.5 ft



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Data File:09-212-C4 3/7/2009 11:49:18 AM
Operator:Mobile 57/CAP Location:TVA-Kingston
Cone ID:DSG0870 Job Number:60095742
Customer:TVA Units:

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
0.07	0.56	0.0280	4.962	-0.012	1	2	organic material
0.13	1.23	0.0349	2.833	0.024	1	2	organic material
0.20	2.17	0.0422	1.947	0.032	2	1	sensitive fine grained
0.26	4.17	0.0490	1.174	0.019	2	1	sensitive fine grained
0.33	6.57	0.0510	0.776	0.007	3	1	sensitive fine grained
0.39	9.14	0.0562	0.615	0.029	4	5	clayey silt to silty clay
0.46	11.65	0.0589	0.506	0.012	4	6	sandy silt to clayey silt
0.52	13.57	0.0590	0.435	-0.017	5	6	sandy silt to clayey silt
0.59	14.86	0.0576	0.387	0.002	6	6	sandy silt to clayey silt
0.66	16.39	0.0562	0.343	0.022	6	6	sandy silt to clayey silt
0.72	17.69	0.0723	0.409	0.027	7	6	sandy silt to clayey silt
0.79	18.68	0.0778	0.416	0.056	7	6	sandy silt to clayey silt
0.85	19.42	0.0869	0.448	0.046	6	7	silty sand to sandy silt
0.92	20.95	0.0976	0.466	0.053	7	7	silty sand to sandy silt
0.98	22.51	0.0950	0.422	0.036	7	7	silty sand to sandy silt
1.05	24.08	0.1021	0.424	0.036	7	7	silty sand to sandy silt
1.12	25.32	0.0979	0.387	0.041	8	7	silty sand to sandy silt
1.18	25.84	0.0989	0.383	0.039	8	7	silty sand to sandy silt
1.25	25.98	0.0990	0.381	0.056	8	7	silty sand to sandy silt
1.31	26.46	0.0923	0.349	0.036	8	7	silty sand to sandy silt
1.38	26.33	0.0913	0.347	0.015	8	7	silty sand to sandy silt
1.44	25.66	0.0810	0.316	0.053	8	7	silty sand to sandy silt
1.51	25.46	0.0893	0.351	0.039	8	7	silty sand to sandy silt
1.57	24.83	0.0807	0.325	0.027	8	7	silty sand to sandy silt
1.64	24.28	0.0762	0.314	0.029	8	7	silty sand to sandy silt
1.71	23.86	0.1147	0.481	0.044	8	7	silty sand to sandy silt
1.77	23.46	0.1259	0.537	0.012	8	7	silty sand to sandy silt
1.84	23.21	0.1183	0.510	0.041	8	7	silty sand to sandy silt
1.90	23.14	0.1141	0.493	0.012	8	7	silty sand to sandy silt
1.97	23.67	0.1107	0.468	0.007	8	7	silty sand to sandy silt
2.03	24.35	0.1141	0.469	0.029	8	7	silty sand to sandy silt
2.10	24.18	0.1081	0.447	0.007	8	7	silty sand to sandy silt
2.17	24.61	0.1026	0.417	0.041	8	7	silty sand to sandy silt
2.23	25.60	0.1146	0.448	0.019	8	7	silty sand to sandy silt
2.30	26.68	0.1134	0.425	0.000	9	7	silty sand to sandy silt
2.36	28.18	0.1030	0.366	0.051	9	7	silty sand to sandy silt
2.43	28.82	0.1052	0.365	0.027	9	7	silty sand to sandy silt
2.49	28.81	0.1050	0.364	0.022	9	7	silty sand to sandy silt
2.56	28.75	0.1099	0.382	0.058	9	7	silty sand to sandy silt
2.62	28.86	0.1175	0.407	0.073	9	7	silty sand to sandy silt
2.69	29.27	0.1232	0.421	0.063	9	7	silty sand to sandy silt
2.76	29.70	0.1220	0.411	0.063	9	7	silty sand to sandy silt
2.82	30.17	0.1288	0.427	0.063	9	7	silty sand to sandy silt
2.89	29.48	0.1196	0.406	0.070	9	7	silty sand to sandy silt
2.95	29.01	0.1152	0.397	0.051	9	7	silty sand to sandy silt
3.02	28.75	0.1163	0.404	0.044	9	7	silty sand to sandy silt
3.08	28.64	0.1131	0.395	0.090	9	7	silty sand to sandy silt
3.15	28.65	0.1064	0.371	0.107	9	7	silty sand to sandy silt
3.22	28.33	0.0965	0.341	0.145	9	7	silty sand to sandy silt
3.28	28.42	0.1030	0.363	0.143	9	7	silty sand to sandy silt
3.35	28.07	0.1135	0.405	0.102	9	7	silty sand to sandy silt
3.41	28.39	0.1145	0.403	0.107	9	7	silty sand to sandy silt
3.48	28.32	0.1158	0.409	0.126	9	7	silty sand to sandy silt
3.54	27.82	0.1219	0.438	0.158	9	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
3.61	27.21	0.1280	0.470	0.160	9	7	silty sand to sandy silt
3.67	26.61	0.1255	0.472	0.141	8	7	silty sand to sandy silt
3.74	25.92	0.1299	0.501	0.150	8	7	silty sand to sandy silt
3.81	25.22	0.1291	0.512	0.162	8	7	silty sand to sandy silt
3.87	24.51	0.1346	0.549	0.182	8	7	silty sand to sandy silt
3.94	23.93	0.1645	0.688	0.179	8	7	silty sand to sandy silt
4.00	23.63	0.2160	0.914	0.177	9	6	sandy silt to clayey silt
4.07	23.20	0.2470	1.065	0.170	9	6	sandy silt to clayey silt
4.13	22.79	0.2526	1.108	0.208	9	6	sandy silt to clayey silt
4.20	23.58	0.2857	1.212	0.235	9	6	sandy silt to clayey silt
4.27	24.45	0.3846	1.573	0.216	10	6	sandy silt to clayey silt
4.33	26.06	0.4096	1.571	0.228	10	6	sandy silt to clayey silt
4.40	27.18	0.4236	1.558	0.233	10	6	sandy silt to clayey silt
4.46	28.37	0.4159	1.466	0.274	11	6	sandy silt to clayey silt
4.53	29.86	0.4096	1.372	0.267	11	6	sandy silt to clayey silt
4.59	29.33	0.3969	1.353	0.327	11	6	sandy silt to clayey silt
4.66	30.41	0.3925	1.291	0.315	10	7	silty sand to sandy silt
4.72	31.53	0.3499	1.110	0.339	10	7	silty sand to sandy silt
4.79	32.02	0.3288	1.027	0.347	10	7	silty sand to sandy silt
4.86	31.38	0.2095	0.668	0.361	10	7	silty sand to sandy silt
4.92	30.06	0.2063	0.686	0.366	9	7	silty sand to sandy silt
4.99	28.54	0.2258	0.791	0.378	9	7	silty sand to sandy silt
5.05	26.73	0.2458	0.919	0.388	9	7	silty sand to sandy silt
5.12	25.02	0.2681	1.072	0.429	10	6	sandy silt to clayey silt
5.18	23.39	0.2753	1.177	0.189	9	6	sandy silt to clayey silt
5.25	22.91	0.2929	1.278	0.201	9	6	sandy silt to clayey silt
5.31	22.22	0.3132	1.409	0.221	9	6	sandy silt to clayey silt
5.38	21.75	0.3265	1.501	0.199	9	6	sandy silt to clayey silt
5.45	22.16	0.3345	1.509	0.196	9	6	sandy silt to clayey silt
5.51	23.07	0.3424	1.484	0.216	9	6	sandy silt to clayey silt
5.58	24.15	0.3461	1.433	0.221	9	6	sandy silt to clayey silt
5.64	24.05	0.3585	1.491	0.201	10	6	sandy silt to clayey silt
5.71	24.94	0.3664	1.469	0.230	10	6	sandy silt to clayey silt
5.77	26.54	0.3646	1.374	0.230	11	6	sandy silt to clayey silt
5.84	29.15	0.3821	1.311	0.237	11	6	sandy silt to clayey silt
5.91	32.99	0.3983	1.207	0.259	12	6	sandy silt to clayey silt
5.97	34.44	0.4018	1.167	0.303	12	6	sandy silt to clayey silt
6.04	34.08	0.4152	1.218	0.308	12	6	sandy silt to clayey silt
6.10	33.39	0.4459	1.335	0.296	12	6	sandy silt to clayey silt
6.17	31.98	0.4665	1.459	0.271	12	6	sandy silt to clayey silt
6.23	31.12	0.4986	1.602	0.305	12	6	sandy silt to clayey silt
6.30	30.10	0.5139	1.707	0.303	12	6	sandy silt to clayey silt
6.36	30.16	0.5514	1.828	0.315	12	6	sandy silt to clayey silt
6.43	31.93	0.6099	1.910	0.339	13	6	sandy silt to clayey silt
6.50	34.16	0.6301	1.845	0.327	13	6	sandy silt to clayey silt
6.56	35.56	0.6480	1.823	0.368	14	6	sandy silt to clayey silt
6.63	37.18	0.6563	1.765	0.395	14	6	sandy silt to clayey silt
6.69	39.44	0.6602	1.674	0.397	15	6	sandy silt to clayey silt
6.76	42.01	0.6865	1.634	0.395	13	7	silty sand to sandy silt
6.82	44.57	0.7153	1.605	0.434	14	7	silty sand to sandy silt
6.89	46.13	0.7294	1.581	0.473	15	7	silty sand to sandy silt
6.96	47.79	0.7777	1.627	0.485	15	7	silty sand to sandy silt
7.02	49.05	0.8047	1.641	0.511	16	7	silty sand to sandy silt
7.09	49.86	0.8259	1.656	0.519	16	7	silty sand to sandy silt
7.15	50.80	0.8579	1.689	0.560	16	7	silty sand to sandy silt
7.22	52.64	0.8758	1.664	0.572	17	7	silty sand to sandy silt
7.28	53.90	0.8449	1.568	0.637	18	7	silty sand to sandy silt
7.35	56.85	0.9045	1.591	0.698	18	7	silty sand to sandy silt
7.41	61.02	0.8845	1.450	0.754	19	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
7.48	63.09	0.8879	1.407	0.788	19	7	silty sand to sandy silt
7.55	63.71	0.8583	1.347	0.831	19	7	silty sand to sandy silt
7.61	62.48	0.8813	1.410	0.788	19	7	silty sand to sandy silt
7.68	59.72	0.9204	1.541	0.761	19	7	silty sand to sandy silt
7.74	55.77	0.8745	1.568	0.768	18	7	silty sand to sandy silt
7.81	52.10	0.9146	1.755	0.795	17	7	silty sand to sandy silt
7.87	49.35	0.8978	1.819	0.829	16	7	silty sand to sandy silt
7.94	47.37	0.9041	1.909	0.853	16	7	silty sand to sandy silt
8.01	46.11	0.8441	1.831	0.868	16	7	silty sand to sandy silt
8.07	47.42	0.9015	1.901	0.860	19	6	sandy silt to clayey silt
8.14	49.21	0.9703	1.972	0.899	19	6	sandy silt to clayey silt
8.20	51.99	1.0593	2.037	0.894	19	6	sandy silt to clayey silt
8.27	53.00	1.0923	2.061	0.943	17	7	silty sand to sandy silt
8.33	53.94	1.0593	1.964	0.969	20	6	sandy silt to clayey silt
8.40	54.74	1.0018	1.830	0.957	17	7	silty sand to sandy silt
8.46	55.63	1.0657	1.916	0.926	17	7	silty sand to sandy silt
8.53	55.32	1.3126	2.373	0.938	17	7	silty sand to sandy silt
8.60	54.83	0.9267	1.690	0.957	17	7	silty sand to sandy silt
8.66	54.06	0.7949	1.470	0.969	16	7	silty sand to sandy silt
8.73	50.04	0.7281	1.455	0.957	16	7	silty sand to sandy silt
8.79	45.34	0.6566	1.448	0.969	15	7	silty sand to sandy silt
8.86	42.98	0.7193	1.674	0.613	14	7	silty sand to sandy silt
8.92	41.23	0.7429	1.802	0.601	14	7	silty sand to sandy silt
8.99	40.73	0.6906	1.696	0.579	16	6	sandy silt to clayey silt
9.06	40.73	0.7165	1.759	0.565	15	6	sandy silt to clayey silt
9.12	39.28	0.6852	1.744	0.565	15	6	sandy silt to clayey silt
9.19	37.07	0.6863	1.851	0.579	14	6	sandy silt to clayey silt
9.25	35.23	0.6988	1.983	0.577	14	6	sandy silt to clayey silt
9.32	33.88	0.6799	2.007	0.570	13	6	sandy silt to clayey silt
9.38	33.42	0.7483	2.239	0.562	13	6	sandy silt to clayey silt
9.45	33.40	0.7021	2.102	0.579	13	6	sandy silt to clayey silt
9.51	32.34	0.6771	2.094	0.545	12	6	sandy silt to clayey silt
9.58	31.54	0.6732	2.135	0.555	12	6	sandy silt to clayey silt
9.65	29.72	0.6635	2.233	0.553	11	6	sandy silt to clayey silt
9.71	27.65	0.7103	2.569	0.526	11	6	sandy silt to clayey silt
9.78	26.27	0.6431	2.448	0.557	10	6	sandy silt to clayey silt
9.84	25.14	0.6112	2.431	0.553	10	6	sandy silt to clayey silt
9.91	24.56	0.6061	2.467	0.579	12	5	clayey silt to silty clay
9.97	23.42	0.5705	2.436	0.582	11	5	clayey silt to silty clay
10.04	22.69	0.5282	2.328	0.567	11	5	clayey silt to silty clay
10.10	21.92	0.5060	2.308	0.582	10	5	clayey silt to silty clay
10.17	20.70	0.4903	2.369	0.572	10	5	clayey silt to silty clay
10.24	19.63	0.4986	2.540	0.579	9	5	clayey silt to silty clay
10.30	18.49	0.5209	2.817	0.601	9	5	clayey silt to silty clay
10.37	17.73	0.5442	3.070	0.628	9	5	clayey silt to silty clay
10.43	17.04	0.5463	3.206	0.647	8	5	clayey silt to silty clay
10.50	16.87	0.5700	3.379	0.654	11	4	silty clay to clay
10.56	16.26	0.5847	3.596	0.662	11	4	silty clay to clay
10.63	16.18	0.6193	3.827	0.664	11	4	silty clay to clay
10.70	16.06	0.6288	3.917	0.710	11	4	silty clay to clay
10.76	16.40	0.6228	3.798	0.749	11	4	silty clay to clay
10.83	16.63	0.6286	3.781	0.887	11	4	silty clay to clay
10.89	17.38	0.6215	3.575	1.158	12	4	silty clay to clay
10.96	18.70	0.6600	3.529	1.529	12	4	silty clay to clay
11.02	20.03	0.6728	3.359	1.679	12	4	silty clay to clay
11.09	21.32	0.6833	3.205	1.745	12	4	silty clay to clay
11.15	19.55	0.7141	3.653	1.786	12	4	silty clay to clay
11.22	17.82	0.8127	4.562	1.784	18	3	clay
11.29	17.28	0.8679	5.022	1.786	18	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
11.35	17.73	0.9553	5.387	1.827	18	3	clay
11.42	18.10	0.9748	5.385	1.847	18	3	clay
11.48	18.40	0.9817	5.334	1.835	18	3	clay
11.55	19.72	0.9953	5.048	1.973	19	3	clay
11.61	20.86	0.9863	4.727	2.261	19	3	clay
11.68	20.36	1.0484	5.148	2.501	19	3	clay
11.75	20.59	1.0719	5.206	2.801	20	3	clay
11.81	20.69	1.0573	5.111	2.949	20	3	clay
11.88	20.57	1.0364	5.040	3.039	19	3	clay
11.94	20.69	1.1271	5.448	3.124	19	3	clay
12.01	18.94	1.0994	5.804	3.233	19	3	clay
12.07	18.97	1.0398	5.480	4.859	20	3	clay
12.14	19.61	1.1198	5.711	4.886	20	3	clay
12.20	20.24	0.9696	4.792	5.438	22	3	clay
12.27	24.97	0.8668	3.472	5.765	15	4	silty clay to clay
12.34	25.19	0.8565	3.400	5.879	16	4	silty clay to clay
12.40	30.40	0.9727	3.200	6.609	13	5	clayey silt to silty clay
12.47	26.90	1.0521	3.911	6.764	15	5	clayey silt to silty clay
12.53	30.09	1.2087	4.017	7.263	16	5	clayey silt to silty clay
12.60	35.51	1.2232	3.445	7.515	17	5	clayey silt to silty clay
12.66	39.77	1.1826	2.974	7.362	19	5	clayey silt to silty clay
12.73	44.08	1.0098	2.291	7.045	16	6	sandy silt to clayey silt
12.80	45.89	1.3256	2.889	6.941	18	6	sandy silt to clayey silt
12.86	50.29	1.2492	2.484	6.824	19	6	sandy silt to clayey silt
12.93	46.96	1.3780	2.935	6.754	26	5	clayey silt to silty clay
12.99	58.81	2.3210	3.947	6.594	27	5	clayey silt to silty clay
13.06	69.10	2.6248	3.799	6.526	28	5	clayey silt to silty clay
13.12	62.38	2.6533	4.253	6.497	27	5	clayey silt to silty clay
13.19	64.87	2.6044	4.015	6.376	26	5	clayey silt to silty clay
13.25	58.66	2.2301	3.802	6.512	23	5	clayey silt to silty clay
13.32	40.18	1.5820	3.937	6.376	26	4	silty clay to clay
13.39	27.39	0.8435	3.079	6.366	22	4	silty clay to clay
13.45	17.72	0.9221	5.205	6.315	18	4	silty clay to clay
13.52	15.51	0.9968	6.426	6.296	15	4	silty clay to clay
13.58	16.71	0.5867	3.510	6.189	13	4	silty clay to clay
13.65	21.77	0.6064	2.785	6.027	16	3	clay
13.71	26.28	0.8306	3.160	5.862	16	3	clay
13.78	13.25	0.9313	7.026	5.775	16	3	clay
13.85	7.67	1.1047	14.409	5.787	16	3	clay
13.91	16.36	1.0238	6.259	5.601	15	3	clay
13.98	18.41	1.0016	5.441	5.581	11	3	clay
14.04	14.63	0.8688	5.937	5.557	10	3	clay
14.11	9.59	0.6457	6.732	5.542	9	3	clay
14.17	4.15	0.5213	12.568	5.567	7	3	clay
14.24	3.11	0.3686	11.860	5.504	5	3	clay
14.30	2.02	0.2290	11.313	5.491	4	2	organic material
14.37	2.73	0.1571	5.754	5.412	4	3	clay
14.44	3.54	0.2674	7.564	5.261	5	3	clay
14.50	5.82	0.2829	4.863	5.203	6	3	clay
14.57	11.17	0.2877	2.577	5.104	6	3	clay
14.63	9.39	0.3745	3.990	5.058	6	3	clay
14.70	7.70	0.3363	4.368	5.072	7	3	clay
14.76	4.30	0.2969	6.903	5.033	7	3	clay
14.83	5.56	0.2231	4.016	5.026	6	3	clay
14.90	6.19	0.1552	2.507	4.995	5	3	clay
14.96	4.69	0.0595	1.269	5.000	5	3	clay
15.03	4.31	0.0964	2.237	5.000	4	4	silty clay to clay
15.09	6.05	0.1562	2.581	5.033	5	4	silty clay to clay
15.16	8.76	0.2434	2.778	5.050	10	3	clay

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
15.22	12.83	0.2456	1.915	5.101	12	4	silty clay to clay
15.29	12.20	0.6439	5.275	4.311	17	5	clayey silt to silty clay
15.35	27.51	1.3397	4.870	4.224	26	6	sandy silt to clayey silt
15.42	54.68	1.9008	3.476	4.272	34	7	silty sand to sandy silt
15.49	124.42	2.9169	2.344	4.437	48	7	silty sand to sandy silt
15.55	238.69	3.4948	1.464	4.907	47	8	sand to silty sand
15.62	283.22	4.1934	1.481	5.339	57	8	sand to silty sand
15.68	307.60	5.0375	1.638	5.540	66	8	sand to silty sand
15.75	324.32	5.7251	1.765	5.707	73	8	sand to silty sand
15.81	324.75	6.2649	1.929	6.153	75	8	sand to silty sand
15.88	323.70	6.7035	2.071	6.243	76	8	sand to silty sand
15.94	318.43	6.8653	2.156	6.531	76	8	sand to silty sand
16.01	310.67	6.9049	2.223	6.803	75	8	sand to silty sand
16.08	307.25	6.8077	2.216	6.967	74	8	sand to silty sand
16.14	301.90	6.4496	2.136	7.307	73	8	sand to silty sand
16.21	298.18	6.5502	2.197	7.622	71	8	sand to silty sand
16.27	294.51	6.5222	2.215	7.951	70	8	sand to silty sand
16.34	290.27	6.3689	2.194	8.085	92	7	silty sand to sandy silt
16.40	283.42	6.5169	2.299	8.189	90	7	silty sand to sandy silt
16.47	277.18	6.6729	2.407	8.458	89	7	silty sand to sandy silt
16.54	270.92	6.6325	2.448	8.652	87	7	silty sand to sandy silt
16.60	267.05	6.5913	2.468	8.884	85	7	silty sand to sandy silt
16.67	266.11	6.7240	2.527	9.076	83	7	silty sand to sandy silt
16.73	256.98	6.3435	2.469	9.461	82	7	silty sand to sandy silt
16.80	248.15	5.8528	2.359	9.517	80	7	silty sand to sandy silt
16.86	242.88	5.0861	2.094	9.519	77	7	silty sand to sandy silt
16.93	237.76	4.5635	1.919	9.592	56	8	sand to silty sand
16.99	226.92	4.0549	1.787	9.856	55	8	sand to silty sand
17.06	217.75	3.7791	1.736	9.793	53	8	sand to silty sand
17.13	212.39	3.5741	1.683	9.657	52	8	sand to silty sand
17.19	209.83	3.5569	1.695	9.686	50	8	sand to silty sand
17.26	208.52	3.6907	1.770	9.798	49	8	sand to silty sand
17.32	201.98	3.9022	1.932	10.086	48	8	sand to silty sand
17.39	193.93	3.8306	1.975	10.084	47	8	sand to silty sand
17.45	187.19	3.5646	1.904	10.159	46	8	sand to silty sand
17.52	187.08	3.4032	1.819	10.067	45	8	sand to silty sand
17.59	180.68	3.3745	1.868	10.026	44	8	sand to silty sand
17.65	178.11	3.4065	1.913	9.902	43	8	sand to silty sand
17.72	175.94	3.2155	1.828	9.878	43	8	sand to silty sand
17.78	173.70	3.2446	1.868	9.846	42	8	sand to silty sand
17.85	174.43	3.1033	1.779	9.846	42	8	sand to silty sand
17.91	177.27	3.0306	1.710	9.774	42	8	sand to silty sand
17.98	178.41	2.8413	1.593	9.730	42	8	sand to silty sand
18.04	180.40	2.7181	1.507	9.694	42	8	sand to silty sand
18.11	175.09	2.6111	1.491	9.798	42	8	sand to silty sand
18.18	173.89	2.6111	1.502	9.606	42	8	sand to silty sand
18.24	173.33	2.4809	1.431	9.594	41	8	sand to silty sand
18.31	169.87	2.5706	1.513	9.519	40	8	sand to silty sand
18.37	169.31	2.6079	1.540	9.430	40	8	sand to silty sand
18.44	160.51	2.5415	1.583	8.521	39	8	sand to silty sand
18.50	158.79	2.5458	1.603	8.547	38	8	sand to silty sand
18.57	156.37	2.4846	1.589	8.460	37	8	sand to silty sand
18.64	152.00	2.2307	1.468	8.547	36	8	sand to silty sand
18.70	146.60	2.3420	1.598	8.540	35	8	sand to silty sand
18.77	144.26	2.1159	1.467	8.574	34	8	sand to silty sand
18.83	138.00	1.9685	1.426	8.499	33	8	sand to silty sand
18.90	135.92	1.7891	1.316	8.458	33	8	sand to silty sand
18.96	132.81	1.6699	1.257	8.465	32	8	sand to silty sand
19.03	128.86	1.7199	1.335	8.480	31	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
19.09	127.08	1.6040	1.262	8.516	30	8	sand to silty sand
19.16	124.88	1.5002	1.201	8.518	29	8	sand to silty sand
19.23	119.46	1.3456	1.126	8.528	29	8	sand to silty sand
19.29	115.62	1.3028	1.127	8.535	28	8	sand to silty sand
19.36	110.60	1.3631	1.232	8.480	27	8	sand to silty sand
19.42	109.23	1.3260	1.214	8.477	26	8	sand to silty sand
19.49	101.27	1.2282	1.213	8.528	25	8	sand to silty sand
19.55	99.76	1.1080	1.111	8.538	24	8	sand to silty sand
19.62	97.28	1.0846	1.115	8.552	24	8	sand to silty sand
19.69	95.11	1.1208	1.178	8.574	23	8	sand to silty sand
19.75	93.76	1.1040	1.177	8.623	22	8	sand to silty sand
19.82	91.85	1.0967	1.194	8.623	22	8	sand to silty sand
19.88	90.26	1.0769	1.193	8.635	22	8	sand to silty sand
19.95	86.96	1.0387	1.194	8.625	21	8	sand to silty sand
20.01	86.10	1.0207	1.186	8.669	21	8	sand to silty sand
20.08	86.99	0.8973	1.032	8.683	21	8	sand to silty sand
20.14	84.90	0.9437	1.111	8.722	20	8	sand to silty sand
20.21	86.15	0.8659	1.005	8.700	20	8	sand to silty sand
20.28	84.82	0.7514	0.886	8.688	20	8	sand to silty sand
20.34	83.62	0.7591	0.908	8.676	20	8	sand to silty sand
20.41	83.77	1.0090	1.204	8.710	20	8	sand to silty sand
20.47	83.01	0.9708	1.169	8.736	20	8	sand to silty sand
20.54	83.03	0.9292	1.119	8.717	20	8	sand to silty sand
20.60	82.59	0.9995	1.210	8.719	19	8	sand to silty sand
20.67	79.88	1.0185	1.275	8.703	26	7	silty sand to sandy silt
20.73	79.33	1.0536	1.328	8.693	25	7	silty sand to sandy silt
20.80	76.41	1.0519	1.377	8.690	25	7	silty sand to sandy silt
20.87	77.35	0.9885	1.278	8.700	24	7	silty sand to sandy silt
20.93	75.88	0.9816	1.294	8.618	24	7	silty sand to sandy silt
21.00	74.86	0.9898	1.322	8.625	24	7	silty sand to sandy silt
21.06	73.16	0.9616	1.314	8.603	23	7	silty sand to sandy silt
21.13	71.39	0.9704	1.359	8.610	22	7	silty sand to sandy silt
21.19	67.54	0.9506	1.407	8.710	21	7	silty sand to sandy silt
21.26	62.24	0.9734	1.564	8.686	20	7	silty sand to sandy silt
21.33	59.05	0.7594	1.286	8.649	19	7	silty sand to sandy silt
21.39	57.18	0.7384	1.291	8.678	19	7	silty sand to sandy silt
21.46	55.19	0.6313	1.144	8.707	18	7	silty sand to sandy silt
21.52	54.67	0.5637	1.031	8.707	17	7	silty sand to sandy silt
21.59	53.67	0.5378	1.002	8.717	17	7	silty sand to sandy silt
21.65	52.48	0.5437	1.036	8.637	17	7	silty sand to sandy silt
21.72	50.37	0.4662	0.925	7.384	16	7	silty sand to sandy silt
21.78	48.85	0.4919	1.007	7.372	16	7	silty sand to sandy silt
21.85	48.16	0.4345	0.902	7.316	15	7	silty sand to sandy silt
21.92	46.93	0.4480	0.955	7.319	15	7	silty sand to sandy silt
21.98	45.85	0.3746	0.817	7.341	14	7	silty sand to sandy silt
22.05	42.72	0.3098	0.725	7.328	14	7	silty sand to sandy silt
22.11	40.23	0.1857	0.461	7.290	13	7	silty sand to sandy silt
22.18	39.85	0.1598	0.401	7.248	13	7	silty sand to sandy silt
22.24	38.74	0.0832	0.215	7.200	13	7	silty sand to sandy silt
22.31	39.03	0.1093	0.280	7.202	13	7	silty sand to sandy silt
22.38	36.71	0.2185	0.595	7.183	13	7	silty sand to sandy silt
22.44	38.74	0.2881	0.744	7.137	13	7	silty sand to sandy silt
22.51	41.22	0.2965	0.719	7.168	13	7	silty sand to sandy silt
22.57	43.20	0.3204	0.742	7.130	13	7	silty sand to sandy silt
22.64	42.99	0.2864	0.666	7.122	13	7	silty sand to sandy silt
22.70	41.50	0.2714	0.654	7.069	14	7	silty sand to sandy silt
22.77	41.44	0.3906	0.943	6.979	14	7	silty sand to sandy silt
22.83	42.53	0.3482	0.819	6.989	14	7	silty sand to sandy silt
22.90	44.82	0.3280	0.732	6.992	14	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
22.97	47.52	0.3154	0.664	6.989	15	7	silty sand to sandy silt
23.03	49.07	0.3415	0.696	6.929	15	7	silty sand to sandy silt
23.10	47.81	0.4314	0.902	6.933	15	7	silty sand to sandy silt
23.16	48.77	0.4382	0.899	6.946	16	7	silty sand to sandy silt
23.23	49.38	0.4466	0.904	6.967	16	7	silty sand to sandy silt
23.29	51.00	0.3733	0.732	6.912	16	7	silty sand to sandy silt
23.36	52.26	0.3445	0.659	6.921	13	8	sand to silty sand
23.43	53.92	0.3177	0.589	6.883	13	8	sand to silty sand
23.49	56.63	0.3219	0.568	6.870	14	8	sand to silty sand
23.56	60.36	0.3321	0.550	6.820	14	8	sand to silty sand
23.62	62.77	0.2786	0.444	6.836	15	8	sand to silty sand
23.69	63.02	0.2781	0.441	6.885	15	8	sand to silty sand
23.75	63.64	0.3511	0.552	6.836	15	8	sand to silty sand
23.82	65.51	0.3321	0.507	6.863	16	8	sand to silty sand
23.88	67.16	0.3326	0.495	6.863	16	8	sand to silty sand
23.95	69.01	0.4497	0.652	6.887	16	8	sand to silty sand
24.02	69.40	0.4120	0.594	6.899	16	8	sand to silty sand
24.08	67.35	0.3528	0.524	6.873	16	8	sand to silty sand
24.15	66.93	0.3802	0.568	6.851	16	8	sand to silty sand
24.21	66.73	0.3176	0.476	6.856	16	8	sand to silty sand
24.28	64.74	0.3932	0.607	6.858	16	8	sand to silty sand
24.34	63.85	0.3542	0.555	6.851	16	8	sand to silty sand
24.41	65.35	0.2884	0.441	6.839	16	8	sand to silty sand
24.48	66.21	0.3525	0.532	6.822	17	8	sand to silty sand
24.54	73.34	0.5430	0.740	6.856	17	8	sand to silty sand
24.61	74.28	0.5992	0.807	6.868	18	8	sand to silty sand
24.67	78.16	0.7150	0.915	6.866	19	8	sand to silty sand
24.74	82.42	0.6849	0.831	6.856	19	8	sand to silty sand
24.80	87.43	0.7181	0.821	6.863	20	8	sand to silty sand
24.87	86.55	0.7074	0.817	6.941	20	8	sand to silty sand
24.93	85.89	0.5992	0.698	6.621	20	8	sand to silty sand
25.00	79.48	0.6132	0.772	6.664	19	8	sand to silty sand
25.07	77.58	0.7333	0.945	6.701	19	8	sand to silty sand
25.13	75.12	0.6205	0.826	6.725	19	8	sand to silty sand
25.20	75.54	0.4159	0.551	6.710	18	8	sand to silty sand
25.26	74.10	0.4794	0.647	6.757	18	8	sand to silty sand
25.33	74.74	0.5341	0.715	6.761	18	8	sand to silty sand
25.39	70.46	0.4217	0.598	6.735	17	8	sand to silty sand
25.46	69.38	0.3305	0.476	6.735	17	8	sand to silty sand
25.52	74.64	0.2993	0.401	6.783	17	8	sand to silty sand
25.59	72.92	0.2745	0.376	6.878	17	8	sand to silty sand
25.66	70.67	0.3266	0.462	6.887	17	8	sand to silty sand
25.72	74.18	0.2917	0.393	6.914	17	8	sand to silty sand
25.79	72.17	0.3117	0.432	6.909	17	8	sand to silty sand
25.85	71.87	0.3489	0.485	6.948	17	8	sand to silty sand
25.92	73.42	0.2992	0.407	6.967	17	8	sand to silty sand
25.98	69.35	0.2796	0.403	6.955	16	8	sand to silty sand
26.05	67.73	0.2989	0.441	6.967	16	8	sand to silty sand
26.12	65.78	0.2456	0.373	6.958	15	8	sand to silty sand
26.18	61.69	0.2557	0.414	6.999	15	8	sand to silty sand
26.25	57.96	0.2045	0.353	7.016	14	8	sand to silty sand
26.31	54.28	0.2042	0.376	7.021	13	8	sand to silty sand
26.38	50.77	0.3163	0.623	7.084	12	8	sand to silty sand
26.44	47.14	0.3045	0.646	7.093	12	8	sand to silty sand
26.51	45.94	0.2850	0.620	7.089	15	7	silty sand to sandy silt
26.57	45.36	0.2627	0.579	7.086	15	7	silty sand to sandy silt
26.64	44.60	0.3181	0.713	7.093	15	7	silty sand to sandy silt
26.71	45.17	0.3252	0.720	7.076	15	7	silty sand to sandy silt
26.77	46.23	0.3325	0.719	7.132	15	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
26.84	47.15	0.3500	0.742	7.166	15	7	silty sand to sandy silt
26.90	47.60	0.4080	0.857	7.168	15	7	silty sand to sandy silt
26.97	46.71	0.4548	0.974	7.178	15	7	silty sand to sandy silt
27.03	45.14	0.5221	1.157	7.178	14	7	silty sand to sandy silt
27.10	43.48	0.5672	1.304	7.205	14	7	silty sand to sandy silt
27.17	42.57	0.6137	1.442	7.181	14	7	silty sand to sandy silt
27.23	43.14	0.6086	1.411	7.178	14	7	silty sand to sandy silt
27.30	43.23	0.5826	1.348	7.198	14	7	silty sand to sandy silt
27.36	43.19	0.5988	1.386	7.178	14	7	silty sand to sandy silt
27.43	43.16	0.6063	1.405	7.198	14	7	silty sand to sandy silt
27.49	43.92	0.5951	1.355	7.229	14	7	silty sand to sandy silt
27.56	44.62	0.5929	1.329	7.253	14	7	silty sand to sandy silt
27.62	44.45	0.5784	1.301	7.244	14	7	silty sand to sandy silt
27.69	44.40	0.5999	1.351	7.256	14	7	silty sand to sandy silt
27.76	44.76	0.6309	1.410	7.258	14	7	silty sand to sandy silt
27.82	45.26	0.6224	1.375	7.280	14	7	silty sand to sandy silt
27.89	44.19	0.6615	1.497	7.285	13	7	silty sand to sandy silt
27.95	41.70	0.7033	1.687	7.299	15	6	sandy silt to clayey silt
28.02	38.32	0.7137	1.862	7.343	14	6	sandy silt to clayey silt
28.08	33.41	0.6914	2.069	7.355	13	6	sandy silt to clayey silt
28.15	28.77	0.6631	2.305	7.314	11	6	sandy silt to clayey silt
28.22	24.24	0.5255	2.168	7.304	10	6	sandy silt to clayey silt
28.28	19.73	0.4294	2.177	7.343	8	6	sandy silt to clayey silt
28.35	16.02	0.3217	2.008	7.498	9	5	clayey silt to silty clay
28.41	13.76	0.2197	1.596	7.784	7	5	clayey silt to silty clay
28.48	12.68	0.1694	1.336	8.174	7	5	clayey silt to silty clay
28.54	11.69	0.1325	1.134	8.778	6	5	clayey silt to silty clay
28.61	11.33	0.1131	0.998	9.379	6	5	clayey silt to silty clay
28.67	11.49	0.1261	1.097	10.028	5	5	clayey silt to silty clay
28.74	10.67	0.1127	1.056	10.520	5	5	clayey silt to silty clay
28.81	9.88	0.1323	1.339	10.932	6	5	clayey silt to silty clay
28.87	10.06	0.1608	1.599	11.296	5	6	sandy silt to clayey silt
28.94	14.64	0.1870	1.277	11.756	5	6	sandy silt to clayey silt
29.00	16.08	0.1887	1.173	12.309	6	6	sandy silt to clayey silt
29.07	16.47	0.1863	1.131	13.181	6	6	sandy silt to clayey silt
29.13	17.43	0.1894	1.087	14.313	7	6	sandy silt to clayey silt
29.20	18.20	0.1868	1.026	16.302	7	6	sandy silt to clayey silt
29.27	18.65	0.1921	1.030	17.601	7	6	sandy silt to clayey silt
29.33	18.96	0.2160	1.139	18.711	7	6	sandy silt to clayey silt
29.40	19.91	0.2343	1.177	20.362	8	6	sandy silt to clayey silt
29.46	20.75	0.2506	1.207	22.252	8	6	sandy silt to clayey silt
29.53	21.66	0.3025	1.397	24.176	9	6	sandy silt to clayey silt
29.59	23.05	0.3995	1.733	26.461	9	6	sandy silt to clayey silt
29.66	24.67	0.6162	2.498	28.657	10	6	sandy silt to clayey silt
29.72	26.77	0.7470	2.790	31.093	12	6	sandy silt to clayey silt
29.79	29.94	0.9289	3.102	34.636	14	6	sandy silt to clayey silt
29.86	37.89	1.2321	3.252	38.074	17	6	sandy silt to clayey silt
29.92	53.27	1.5677	2.943	40.842	20	6	sandy silt to clayey silt
29.99	68.20	1.9061	2.795	36.785	23	6	sandy silt to clayey silt
30.05	73.03	2.0823	2.851	18.006	25	6	sandy silt to clayey silt
30.12	74.34	2.1582	2.903	13.862	28	6	sandy silt to clayey silt
30.18	75.66	2.3157	3.060	13.021	31	6	sandy silt to clayey silt
30.25	80.97	2.4215	2.991	12.447	32	6	sandy silt to clayey silt
30.31	89.50	2.4009	2.683	11.872	28	7	silty sand to sandy silt
30.38	98.04	2.1227	2.165	11.426	29	7	silty sand to sandy silt
30.45	101.08	1.6975	1.679	11.005	30	7	silty sand to sandy silt
30.51	98.89	1.3976	1.413	10.651	30	7	silty sand to sandy silt
30.58	94.92	1.3556	1.428	10.324	30	7	silty sand to sandy silt
30.64	90.21	1.4227	1.577	9.960	29	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
30.71	86.38	1.5239	1.764	9.522	28	7	silty sand to sandy silt
30.77	84.02	1.5534	1.849	9.199	27	7	silty sand to sandy silt
30.84	81.52	1.4871	1.824	8.892	26	7	silty sand to sandy silt
30.91	78.39	1.3606	1.736	8.712	24	7	silty sand to sandy silt
30.97	74.57	1.1073	1.485	8.460	23	7	silty sand to sandy silt
31.04	67.54	0.7376	1.092	8.228	22	7	silty sand to sandy silt
31.10	61.42	0.5848	0.952	8.000	20	7	silty sand to sandy silt
31.17	56.34	0.5442	0.966	7.760	19	7	silty sand to sandy silt
31.23	52.84	0.5209	0.986	7.573	17	7	silty sand to sandy silt
31.30	48.42	0.4908	1.014	7.355	16	7	silty sand to sandy silt
31.36	44.94	0.4415	0.983	6.570	15	7	silty sand to sandy silt
31.43	42.64	0.3397	0.797	6.468	14	7	silty sand to sandy silt
31.50	41.21	0.2808	0.681	6.374	13	7	silty sand to sandy silt
31.56	40.67	0.2490	0.612	6.235	13	7	silty sand to sandy silt
31.63	39.16	0.2434	0.622	6.071	12	7	silty sand to sandy silt
31.69	37.84	0.2714	0.717	5.930	12	7	silty sand to sandy silt
31.76	36.52	0.3205	0.877	5.814	12	7	silty sand to sandy silt
31.82	35.17	0.3825	1.088	5.705	11	7	silty sand to sandy silt
31.89	34.05	0.4379	1.286	5.668	11	7	silty sand to sandy silt
31.96	33.22	0.4904	1.476	5.622	11	7	silty sand to sandy silt
32.02	32.91	0.5185	1.576	5.579	13	6	sandy silt to clayey silt
32.09	32.80	0.5479	1.670	5.559	13	6	sandy silt to clayey silt
32.15	33.12	0.5634	1.701	5.547	13	6	sandy silt to clayey silt
32.22	33.46	0.5803	1.734	5.530	13	6	sandy silt to clayey silt
32.28	33.71	0.5915	1.755	5.516	13	6	sandy silt to clayey silt
32.35	33.92	0.6054	1.785	5.533	13	6	sandy silt to clayey silt
32.41	34.25	0.6173	1.802	5.494	13	6	sandy silt to clayey silt
32.48	34.30	0.6263	1.826	5.506	13	6	sandy silt to clayey silt
32.55	34.05	0.6282	1.845	5.518	13	6	sandy silt to clayey silt
32.61	33.85	0.5868	1.734	5.533	13	6	sandy silt to clayey silt
32.68	33.88	0.5215	1.539	5.557	11	7	silty sand to sandy silt
32.74	34.54	0.4187	1.212	5.535	11	7	silty sand to sandy silt
32.81	35.44	0.3342	0.943	5.547	11	7	silty sand to sandy silt
32.87	36.47	0.2866	0.786	5.511	11	7	silty sand to sandy silt
32.94	36.84	0.2557	0.694	5.462	12	7	silty sand to sandy silt
33.01	36.98	0.2758	0.746	5.402	12	7	silty sand to sandy silt
33.07	36.31	0.3322	0.915	5.332	12	7	silty sand to sandy silt
33.14	35.74	0.4152	1.162	5.269	12	7	silty sand to sandy silt
33.20	35.68	0.4671	1.309	5.244	12	7	silty sand to sandy silt
33.27	35.95	0.5198	1.446	5.220	12	7	silty sand to sandy silt
33.33	36.36	0.5447	1.498	5.215	11	7	silty sand to sandy silt
33.40	36.48	0.5524	1.514	5.235	14	6	sandy silt to clayey silt
33.46	35.99	0.5481	1.523	5.230	14	6	sandy silt to clayey silt
33.53	35.31	0.5438	1.540	5.215	13	6	sandy silt to clayey silt
33.60	34.27	0.5326	1.554	5.247	13	6	sandy silt to clayey silt
33.66	33.65	0.5294	1.573	5.242	13	6	sandy silt to clayey silt
33.73	33.14	0.5219	1.575	5.244	13	6	sandy silt to clayey silt
33.79	33.22	0.5243	1.578	5.252	13	6	sandy silt to clayey silt
33.86	33.60	0.4914	1.463	5.290	13	6	sandy silt to clayey silt
33.92	34.18	0.4563	1.335	5.295	11	7	silty sand to sandy silt
33.99	35.03	0.4358	1.244	5.317	11	7	silty sand to sandy silt
34.06	36.25	0.4042	1.115	5.363	12	7	silty sand to sandy silt
34.12	37.94	0.4064	1.071	5.358	12	7	silty sand to sandy silt
34.19	39.18	0.4444	1.134	5.358	12	7	silty sand to sandy silt
34.25	40.57	0.5809	1.432	5.346	13	7	silty sand to sandy silt
34.32	41.76	0.6480	1.552	5.332	13	7	silty sand to sandy silt
34.38	42.33	0.7156	1.691	5.310	13	7	silty sand to sandy silt
34.45	42.67	0.7511	1.760	5.307	14	7	silty sand to sandy silt
34.51	43.12	0.7995	1.854	5.285	14	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
34.58	43.85	0.8403	1.916	6.059	15	7	silty sand to sandy silt
34.65	46.09	0.8771	1.903	5.983	16	7	silty sand to sandy silt
34.71	49.78	0.7463	1.499	5.836	17	7	silty sand to sandy silt
34.78	55.31	0.4735	0.856	5.697	18	7	silty sand to sandy silt
34.84	62.56	0.4372	0.699	5.554	20	7	silty sand to sandy silt
34.91	70.42	0.5345	0.759	5.458	21	7	silty sand to sandy silt
34.97	74.76	0.7027	0.940	5.334	17	8	sand to silty sand
35.04	76.30	0.8564	1.122	5.232	17	8	sand to silty sand
35.10	75.41	0.9283	1.231	5.184	23	7	silty sand to sandy silt
35.17	74.00	0.9247	1.250	5.101	23	7	silty sand to sandy silt
35.24	72.50	0.9283	1.280	5.092	23	7	silty sand to sandy silt
35.30	70.60	0.9268	1.313	5.089	22	7	silty sand to sandy silt
35.37	67.66	0.9031	1.335	5.048	21	7	silty sand to sandy silt
35.43	64.05	0.8709	1.360	5.063	20	7	silty sand to sandy silt
35.50	60.10	0.8626	1.435	5.058	19	7	silty sand to sandy silt
35.56	56.08	0.8486	1.513	5.082	18	7	silty sand to sandy silt
35.63	52.88	0.8324	1.574	5.104	17	7	silty sand to sandy silt
35.70	49.41	0.7860	1.591	5.135	16	7	silty sand to sandy silt
35.76	46.37	0.7555	1.629	5.121	15	7	silty sand to sandy silt
35.83	43.62	0.7558	1.733	5.135	14	7	silty sand to sandy silt
35.89	41.23	0.7564	1.834	5.167	14	7	silty sand to sandy silt
35.96	40.05	0.7514	1.876	5.196	16	6	sandy silt to clayey silt
36.02	39.74	0.7464	1.878	5.191	16	6	sandy silt to clayey silt
36.09	39.94	0.7456	1.867	5.249	15	6	sandy silt to clayey silt
36.15	40.05	0.7476	1.867	5.283	15	6	sandy silt to clayey silt
36.22	39.52	0.7358	1.862	5.344	15	6	sandy silt to clayey silt
36.29	38.51	0.7161	1.860	5.416	14	6	sandy silt to clayey silt
36.35	36.99	0.6931	1.874	5.450	14	6	sandy silt to clayey silt
36.42	35.54	0.6792	1.911	5.477	14	6	sandy silt to clayey silt
36.48	34.36	0.6792	1.976	5.511	13	6	sandy silt to clayey silt
36.55	33.54	0.6554	1.954	5.567	13	6	sandy silt to clayey silt
36.61	33.13	0.6152	1.857	5.598	13	6	sandy silt to clayey silt
36.68	33.69	0.5946	1.765	5.644	13	6	sandy silt to clayey silt
36.75	34.55	0.5972	1.728	5.678	13	6	sandy silt to clayey silt
36.81	35.68	0.6313	1.769	5.712	14	6	sandy silt to clayey silt
36.88	37.04	0.6566	1.773	5.768	14	6	sandy silt to clayey silt
36.94	38.55	0.6712	1.741	5.777	15	6	sandy silt to clayey silt
37.01	40.11	0.6981	1.741	5.831	15	6	sandy silt to clayey silt
37.07	41.62	0.7108	1.708	5.850	16	6	sandy silt to clayey silt
37.14	43.03	0.7333	1.704	5.889	14	7	silty sand to sandy silt
37.20	44.30	0.7472	1.687	5.920	14	7	silty sand to sandy silt
37.27	45.06	0.7554	1.676	5.959	14	7	silty sand to sandy silt
37.34	45.43	0.7607	1.675	6.013	14	7	silty sand to sandy silt
37.40	45.22	0.7628	1.687	6.051	14	7	silty sand to sandy silt
37.47	44.65	0.7358	1.648	6.095	14	7	silty sand to sandy silt
37.53	43.66	0.7194	1.648	6.124	14	7	silty sand to sandy silt
37.60	42.56	0.7279	1.710	6.172	14	7	silty sand to sandy silt
37.66	41.51	0.7347	1.770	6.211	16	6	sandy silt to clayey silt
37.73	40.44	0.7328	1.812	6.235	15	6	sandy silt to clayey silt
37.80	38.62	0.7388	1.913	7.542	15	6	sandy silt to clayey silt
37.86	38.28	0.7444	1.944	7.549	15	6	sandy silt to clayey silt
37.93	37.74	0.7410	1.964	7.588	15	6	sandy silt to clayey silt
37.99	37.20	0.7290	1.960	7.617	14	6	sandy silt to clayey silt
38.06	36.96	0.7196	1.947	7.651	14	6	sandy silt to clayey silt
38.12	36.95	0.7028	1.902	7.685	14	6	sandy silt to clayey silt
38.19	37.36	0.6939	1.857	7.702	15	6	sandy silt to clayey silt
38.25	38.08	0.6814	1.790	7.745	15	6	sandy silt to clayey silt
38.32	39.28	0.6898	1.756	7.755	16	6	sandy silt to clayey silt
38.39	41.18	0.7165	1.740	7.803	14	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
38.45	43.58	0.7568	1.737	7.849	14	7	silty sand to sandy silt
38.52	46.98	0.7919	1.685	7.886	15	7	silty sand to sandy silt
38.58	50.65	0.8270	1.633	7.910	16	7	silty sand to sandy silt
38.65	53.62	0.8552	1.595	7.954	16	7	silty sand to sandy silt
38.71	55.10	0.8685	1.576	8.000	17	7	silty sand to sandy silt
38.78	54.96	0.8639	1.572	8.053	17	7	silty sand to sandy silt
38.85	54.09	0.8394	1.552	8.075	17	7	silty sand to sandy silt
38.91	53.39	0.8191	1.534	8.094	17	7	silty sand to sandy silt
38.98	52.99	0.8044	1.518	8.145	17	7	silty sand to sandy silt
39.04	53.32	0.7906	1.483	8.177	17	7	silty sand to sandy silt
39.11	53.64	0.7820	1.458	8.189	17	7	silty sand to sandy silt
39.17	53.64	0.7955	1.483	8.232	17	7	silty sand to sandy silt
39.24	52.91	0.8086	1.528	8.274	16	7	silty sand to sandy silt
39.30	51.27	0.8239	1.607	8.310	16	7	silty sand to sandy silt
39.37	48.70	0.8139	1.671	8.332	15	7	silty sand to sandy silt
39.44	45.98	0.7849	1.707	8.371	15	7	silty sand to sandy silt
39.50	42.83	0.7525	1.757	8.412	14	7	silty sand to sandy silt
39.57	40.41	0.7194	1.780	8.438	16	6	sandy silt to clayey silt
39.63	38.50	0.7079	1.839	8.455	15	6	sandy silt to clayey silt
39.70	37.11	0.7058	1.902	8.501	15	6	sandy silt to clayey silt
39.76	36.18	0.7138	1.973	8.560	14	6	sandy silt to clayey silt
39.83	35.78	0.7230	2.020	8.610	14	6	sandy silt to clayey silt
39.90	35.70	0.7305	2.046	8.683	14	6	sandy silt to clayey silt
39.96	35.72	0.7345	2.056	8.739	14	6	sandy silt to clayey silt
40.03	35.48	0.7428	2.094	8.778	13	6	sandy silt to clayey silt
40.09	34.73	0.7836	2.256	8.836	13	6	sandy silt to clayey silt
40.16	33.58	0.8036	2.393	8.913	13	6	sandy silt to clayey silt
40.22	32.55	0.7161	2.200	8.972	13	6	sandy silt to clayey silt
40.29	32.37	0.4989	1.541	9.020	12	7	silty sand to sandy silt
40.35	34.98	0.3547	1.014	9.078	13	7	silty sand to sandy silt
40.42	41.00	0.3317	0.809	9.013	14	7	silty sand to sandy silt
40.49	48.99	0.3996	0.816	8.521	14	7	silty sand to sandy silt
40.55	53.97	0.5121	0.949	7.954	15	7	silty sand to sandy silt
40.62	52.57	0.5961	1.134	7.677	15	7	silty sand to sandy silt
40.68	48.72	0.6690	1.373	7.547	15	7	silty sand to sandy silt
40.75	44.70	0.6477	1.449	7.527	14	7	silty sand to sandy silt
40.81	40.25	0.6308	1.567	7.542	13	7	silty sand to sandy silt
40.88	36.85	0.6259	1.698	7.578	14	6	sandy silt to clayey silt
40.94	33.77	0.5919	1.753	7.597	13	6	sandy silt to clayey silt
41.01	30.59	0.5420	1.772	9.194	13	6	sandy silt to clayey silt
41.08	28.86	0.5364	1.859	9.238	12	6	sandy silt to clayey silt
41.14	28.81	0.5172	1.795	9.306	12	6	sandy silt to clayey silt
41.21	30.63	0.5036	1.644	9.357	12	6	sandy silt to clayey silt
41.27	32.31	0.5037	1.559	9.333	12	6	sandy silt to clayey silt
41.34	32.69	0.5090	1.557	9.335	12	6	sandy silt to clayey silt
41.40	32.42	0.5326	1.643	9.408	12	6	sandy silt to clayey silt
41.47	31.96	0.5548	1.736	9.480	12	6	sandy silt to clayey silt
41.54	31.36	0.5401	1.722	9.507	12	6	sandy silt to clayey silt
41.60	30.63	0.5190	1.695	9.551	12	6	sandy silt to clayey silt
41.67	30.45	0.4917	1.615	9.587	12	6	sandy silt to clayey silt
41.73	30.92	0.4886	1.580	9.655	12	6	sandy silt to clayey silt
41.80	31.56	0.5126	1.624	9.682	12	6	sandy silt to clayey silt
41.86	31.96	0.5856	1.832	9.691	12	6	sandy silt to clayey silt
41.93	32.48	0.6119	1.884	9.696	12	6	sandy silt to clayey silt
41.99	32.73	0.6239	1.906	9.732	12	6	sandy silt to clayey silt
42.06	32.61	0.5940	1.822	9.795	13	6	sandy silt to clayey silt
42.13	33.03	0.5822	1.762	9.861	13	6	sandy silt to clayey silt
42.19	33.71	0.5459	1.619	9.866	13	6	sandy silt to clayey silt
42.26	33.99	0.4570	1.344	9.519	13	6	sandy silt to clayey silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
42.32	34.91	0.4141	1.186	8.933	11	7	silty sand to sandy silt
42.39	35.82	0.4095	1.143	8.455	11	7	silty sand to sandy silt
42.45	36.54	0.4186	1.146	8.157	12	7	silty sand to sandy silt
42.52	37.48	0.3946	1.053	7.900	12	7	silty sand to sandy silt
42.59	37.65	0.3838	1.019	7.602	12	7	silty sand to sandy silt
42.65	37.98	0.3847	1.013	7.408	12	7	silty sand to sandy silt
42.72	38.35	0.3974	1.036	7.251	12	7	silty sand to sandy silt
42.78	39.29	0.4195	1.068	7.076	13	7	silty sand to sandy silt
42.85	40.05	0.4490	1.121	6.931	13	7	silty sand to sandy silt
42.91	40.42	0.4932	1.220	6.824	13	7	silty sand to sandy silt
42.98	40.74	0.5349	1.313	6.752	13	7	silty sand to sandy silt
43.04	41.60	0.5862	1.409	6.718	13	7	silty sand to sandy silt
43.11	42.53	0.6325	1.487	6.706	14	7	silty sand to sandy silt
43.18	43.70	0.6960	1.592	6.708	14	7	silty sand to sandy silt
43.24	44.65	0.7521	1.685	6.754	14	7	silty sand to sandy silt
43.31	45.42	0.8116	1.787	6.778	14	7	silty sand to sandy silt
43.37	45.73	0.8437	1.845	6.822	14	7	silty sand to sandy silt
43.44	45.60	0.8716	1.911	6.909	17	6	sandy silt to clayey silt
43.50	45.26	0.8895	1.965	6.989	17	6	sandy silt to clayey silt
43.57	44.81	0.8931	1.993	7.059	17	6	sandy silt to clayey silt
43.64	44.15	0.8935	2.024	7.137	17	6	sandy silt to clayey silt
43.70	43.73	0.8969	2.051	7.256	17	6	sandy silt to clayey silt
43.77	43.86	0.8771	2.000	7.345	17	6	sandy silt to clayey silt
43.83	44.38	0.8764	1.975	7.469	17	6	sandy silt to clayey silt
43.90	45.67	0.8791	1.925	7.556	18	6	sandy silt to clayey silt
43.96	47.34	0.9053	1.912	7.641	18	6	sandy silt to clayey silt
44.03	49.47	0.9558	1.932	7.762	19	6	sandy silt to clayey silt
44.09	51.52	1.0081	1.957	7.806	20	6	sandy silt to clayey silt
44.16	53.56	1.0593	1.978	7.854	20	6	sandy silt to clayey silt
44.23	55.09	1.1090	2.013	10.336	18	7	silty sand to sandy silt
44.29	56.78	1.1376	2.004	10.350	18	7	silty sand to sandy silt
44.36	58.23	1.1866	2.038	10.401	18	7	silty sand to sandy silt
44.42	59.35	1.2305	2.073	10.467	19	7	silty sand to sandy silt
44.49	60.37	1.2458	2.064	10.479	19	7	silty sand to sandy silt
44.55	61.24	1.2443	2.032	10.539	19	7	silty sand to sandy silt
44.62	61.89	1.2437	2.010	10.581	19	7	silty sand to sandy silt
44.69	62.36	1.2334	1.978	10.639	19	7	silty sand to sandy silt
44.75	61.81	1.2017	1.944	10.692	19	7	silty sand to sandy silt
44.82	60.63	1.1542	1.904	10.743	19	7	silty sand to sandy silt
44.88	58.58	1.0912	1.863	10.792	19	7	silty sand to sandy silt
44.95	56.65	1.0419	1.839	10.835	18	7	silty sand to sandy silt
45.01	54.61	1.0031	1.837	10.886	18	7	silty sand to sandy silt
45.08	53.24	0.9639	1.810	10.922	17	7	silty sand to sandy silt
45.14	52.73	0.9457	1.793	10.942	17	7	silty sand to sandy silt
45.21	53.17	0.9527	1.792	11.005	17	7	silty sand to sandy silt
45.28	54.13	0.9704	1.793	11.065	17	7	silty sand to sandy silt
45.34	55.22	0.9740	1.764	11.094	18	7	silty sand to sandy silt
45.41	56.01	0.9852	1.759	11.167	18	7	silty sand to sandy silt
45.47	56.77	1.0180	1.793	11.228	18	7	silty sand to sandy silt
45.54	57.47	1.0461	1.820	11.296	19	7	silty sand to sandy silt
45.60	58.65	1.0542	1.797	11.349	19	7	silty sand to sandy silt
45.67	60.22	1.0885	1.807	11.397	20	7	silty sand to sandy silt
45.73	62.33	1.1338	1.819	11.436	20	7	silty sand to sandy silt
45.80	65.19	1.1805	1.811	11.485	21	7	silty sand to sandy silt
45.87	68.16	1.2495	1.833	11.550	22	7	silty sand to sandy silt
45.93	71.21	1.3166	1.849	11.611	23	7	silty sand to sandy silt
46.00	73.90	1.3877	1.878	11.695	23	7	silty sand to sandy silt
46.06	76.24	1.4621	1.918	11.739	24	7	silty sand to sandy silt
46.13	77.36	1.5373	1.987	11.775	24	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
46.19	77.94	1.6056	2.060	11.834	24	7	silty sand to sandy silt
46.26	77.46	1.6065	2.074	11.892	24	7	silty sand to sandy silt
46.33	76.88	1.5839	2.060	11.926	24	7	silty sand to sandy silt
46.39	75.98	1.5680	2.064	11.994	24	7	silty sand to sandy silt
46.46	74.78	1.5490	2.071	12.032	24	7	silty sand to sandy silt
46.52	72.93	1.5376	2.108	12.059	23	7	silty sand to sandy silt
46.59	70.81	1.4884	2.102	12.061	22	7	silty sand to sandy silt
46.65	68.16	1.4373	2.109	12.093	22	7	silty sand to sandy silt
46.72	65.54	1.3992	2.135	12.156	21	7	silty sand to sandy silt
46.78	62.75	1.3606	2.168	12.170	24	6	sandy silt to clayey silt
46.85	59.54	1.3083	2.197	12.200	23	6	sandy silt to clayey silt
46.92	57.03	1.2432	2.180	12.236	22	6	sandy silt to clayey silt
46.98	55.10	1.1841	2.149	12.275	22	6	sandy silt to clayey silt
47.05	54.14	1.1381	2.102	12.333	21	6	sandy silt to clayey silt
47.11	53.85	1.0697	1.986	12.386	21	6	sandy silt to clayey silt
47.18	54.19	1.0613	1.958	12.420	18	7	silty sand to sandy silt
47.24	55.00	1.0667	1.939	12.452	18	7	silty sand to sandy silt
47.31	56.41	1.0735	1.903	12.483	18	7	silty sand to sandy silt
47.38	57.86	1.0733	1.855	12.522	18	7	silty sand to sandy silt
47.44	57.35	1.0707	1.867	12.696	18	7	silty sand to sandy silt
47.51	56.91	1.0697	1.880	12.738	18	7	silty sand to sandy silt
47.57	55.34	1.0568	1.910	12.764	17	7	silty sand to sandy silt
47.64	53.51	1.0296	1.924	12.791	17	7	silty sand to sandy silt
47.70	51.20	0.9967	1.947	12.830	16	7	silty sand to sandy silt
47.77	49.07	0.9520	1.940	12.866	19	6	sandy silt to clayey silt
47.83	47.25	0.9092	1.924	12.900	18	6	sandy silt to clayey silt
47.90	46.15	0.8901	1.929	12.919	18	6	sandy silt to clayey silt
47.97	45.60	0.8648	1.896	12.929	18	6	sandy silt to clayey silt
48.03	45.03	0.8502	1.888	12.985	17	6	sandy silt to clayey silt
48.10	44.77	0.8377	1.871	12.982	17	6	sandy silt to clayey silt
48.16	44.85	0.8176	1.823	12.994	15	7	silty sand to sandy silt
48.23	45.53	0.8177	1.796	12.994	15	7	silty sand to sandy silt
48.29	46.67	0.8123	1.740	12.980	15	7	silty sand to sandy silt
48.36	48.38	0.8241	1.703	12.946	15	7	silty sand to sandy silt
48.43	49.91	0.8506	1.704	12.890	16	7	silty sand to sandy silt
48.49	51.00	0.8740	1.714	12.910	16	7	silty sand to sandy silt
48.56	51.52	0.9150	1.776	12.929	16	7	silty sand to sandy silt
48.62	51.34	0.9309	1.813	12.965	16	7	silty sand to sandy silt
48.69	50.58	0.9358	1.850	13.043	19	6	sandy silt to clayey silt
48.75	48.97	0.9708	1.982	13.130	18	6	sandy silt to clayey silt
48.82	46.23	1.0519	2.275	13.183	17	6	sandy silt to clayey silt
48.88	41.68	1.1052	2.652	13.254	16	6	sandy silt to clayey silt
48.95	35.59	1.0708	3.009	13.322	15	6	sandy silt to clayey silt
49.02	31.51	0.8119	2.576	13.486	14	6	sandy silt to clayey silt
49.08	30.39	0.5653	1.860	13.925	14	6	sandy silt to clayey silt
49.15	35.52	0.4005	1.128	14.766	12	7	silty sand to sandy silt
49.21	42.49	0.3568	0.840	15.348	13	7	silty sand to sandy silt
49.28	45.97	0.4231	0.920	14.911	14	7	silty sand to sandy silt
49.34	47.80	0.4925	1.030	13.263	14	7	silty sand to sandy silt
49.41	48.21	0.5725	1.187	12.013	15	7	silty sand to sandy silt
49.48	48.68	0.6949	1.428	11.744	16	7	silty sand to sandy silt
49.54	49.06	0.8128	1.657	11.834	16	7	silty sand to sandy silt
49.61	50.01	0.9119	1.824	12.074	16	7	silty sand to sandy silt
49.67	50.43	0.9805	1.944	12.270	16	7	silty sand to sandy silt
49.74	50.39	0.9968	1.978	12.536	16	7	silty sand to sandy silt
49.80	50.45	0.9803	1.943	12.873	16	7	silty sand to sandy silt
49.87	50.71	0.9498	1.873	13.106	16	7	silty sand to sandy silt
49.93	51.68	0.9288	1.797	13.280	16	7	silty sand to sandy silt
50.00	52.55	0.9372	1.784	13.397	16	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
50.07	52.28	0.9866	1.887	13.426	16	7	silty sand to sandy silt
50.13	51.12	0.9893	1.935	13.540	16	7	silty sand to sandy silt
50.20	49.92	0.9511	1.905	13.721	16	7	silty sand to sandy silt
50.26	49.47	0.9176	1.855	13.903	16	7	silty sand to sandy silt
50.33	49.57	0.9578	1.932	14.109	17	7	silty sand to sandy silt
50.39	51.29	0.9718	1.895	14.390	17	7	silty sand to sandy silt
50.46	54.07	1.0027	1.854	14.892	18	7	silty sand to sandy silt
50.52	56.93	1.0581	1.858	15.401	19	7	silty sand to sandy silt
50.59	59.18	1.1164	1.887	16.036	20	7	silty sand to sandy silt
50.66	64.54	1.2340	1.912	14.788	21	7	silty sand to sandy silt
50.72	70.23	1.3319	1.896	14.853	23	7	silty sand to sandy silt
50.79	78.06	1.4615	1.872	14.839	24	7	silty sand to sandy silt
50.85	82.34	1.5879	1.928	14.703	25	7	silty sand to sandy silt
50.92	85.43	1.6884	1.976	14.676	27	7	silty sand to sandy silt
50.98	88.06	1.7457	1.982	14.824	28	7	silty sand to sandy silt
51.05	89.98	1.7682	1.965	14.921	28	7	silty sand to sandy silt
51.12	91.16	1.7651	1.936	15.008	29	7	silty sand to sandy silt
51.18	91.49	1.7292	1.890	15.023	29	7	silty sand to sandy silt
51.25	91.27	1.7024	1.865	15.035	29	7	silty sand to sandy silt
51.31	89.99	1.6992	1.888	15.074	28	7	silty sand to sandy silt
51.38	88.31	1.6635	1.884	15.062	28	7	silty sand to sandy silt
51.44	85.77	1.6148	1.883	15.129	27	7	silty sand to sandy silt
51.51	82.87	1.5680	1.892	15.120	26	7	silty sand to sandy silt
51.57	80.34	1.5211	1.893	15.163	26	7	silty sand to sandy silt
51.64	77.81	1.4751	1.896	15.195	25	7	silty sand to sandy silt
51.71	75.66	1.4351	1.897	15.192	25	7	silty sand to sandy silt
51.77	74.37	1.4051	1.889	15.226	24	7	silty sand to sandy silt
51.84	74.08	1.3974	1.886	15.268	24	7	silty sand to sandy silt
51.90	74.19	1.3623	1.836	15.304	24	7	silty sand to sandy silt
51.97	74.79	1.3172	1.761	15.309	25	7	silty sand to sandy silt
52.03	77.41	1.2770	1.650	15.323	26	7	silty sand to sandy silt
52.10	81.51	1.2917	1.585	15.352	27	7	silty sand to sandy silt
52.17	87.64	1.3538	1.545	15.447	29	7	silty sand to sandy silt
52.23	95.59	1.4397	1.506	15.466	31	7	silty sand to sandy silt
52.30	105.59	1.5649	1.482	15.556	25	8	sand to silty sand
52.36	117.33	1.6907	1.441	15.619	27	8	sand to silty sand
52.43	124.97	1.7768	1.422	15.687	28	8	sand to silty sand
52.49	127.16	1.7844	1.403	15.689	28	8	sand to silty sand
52.56	123.76	1.7104	1.382	15.709	28	8	sand to silty sand
52.62	115.59	1.6498	1.427	15.730	27	8	sand to silty sand
52.69	108.46	1.5869	1.463	15.675	26	8	sand to silty sand
52.76	103.14	1.5229	1.477	15.602	25	8	sand to silty sand
52.82	99.16	1.4695	1.482	15.600	32	7	silty sand to sandy silt
52.89	92.98	1.4644	1.575	15.621	30	7	silty sand to sandy silt
52.95	88.36	1.4839	1.679	15.699	29	7	silty sand to sandy silt
53.02	85.33	1.5348	1.799	15.745	29	7	silty sand to sandy silt
53.08	84.39	1.5100	1.789	15.779	28	7	silty sand to sandy silt
53.15	86.21	1.5525	1.801	15.801	29	7	silty sand to sandy silt
53.22	91.30	1.6189	1.773	15.844	29	7	silty sand to sandy silt
53.28	95.25	1.6462	1.728	15.878	29	7	silty sand to sandy silt
53.35	94.81	1.6102	1.698	15.890	29	7	silty sand to sandy silt
53.41	92.08	1.5570	1.691	15.808	29	7	silty sand to sandy silt
53.48	89.12	1.5758	1.768	15.941	29	7	silty sand to sandy silt
53.54	88.57	1.4279	1.612	15.985	29	7	silty sand to sandy silt
53.61	89.21	1.3753	1.542	15.992	29	7	silty sand to sandy silt
53.67	90.77	1.3656	1.504	16.021	30	7	silty sand to sandy silt
53.74	94.37	1.3555	1.436	16.029	30	7	silty sand to sandy silt
53.81	95.27	1.3618	1.429	15.823	23	8	sand to silty sand
53.87	101.85	1.3928	1.367	15.823	24	8	sand to silty sand

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
53.94	105.54	1.4761	1.399	15.842	24	8	sand to silty sand
54.00	105.45	1.5504	1.470	15.847	32	7	silty sand to sandy silt
54.07	102.29	1.5917	1.556	15.837	31	7	silty sand to sandy silt
54.13	96.35	1.6045	1.665	15.818	31	7	silty sand to sandy silt
54.20	91.41	1.5936	1.743	15.786	29	7	silty sand to sandy silt
54.27	86.83	1.5301	1.762	15.861	28	7	silty sand to sandy silt
54.33	82.51	1.4622	1.772	15.903	26	7	silty sand to sandy silt
54.40	78.61	1.3599	1.730	15.915	25	7	silty sand to sandy silt
54.46	74.39	1.2224	1.643	15.929	24	7	silty sand to sandy silt
54.53	70.43	1.1076	1.573	15.907	23	7	silty sand to sandy silt
54.59	66.69	1.0121	1.518	15.910	22	7	silty sand to sandy silt
54.66	64.22	0.9369	1.459	15.900	21	7	silty sand to sandy silt
54.72	62.98	0.8695	1.381	15.905	20	7	silty sand to sandy silt
54.79	61.91	0.8035	1.298	15.903	20	7	silty sand to sandy silt
54.86	61.46	0.7697	1.252	15.910	20	7	silty sand to sandy silt
54.92	60.62	0.7507	1.238	15.929	19	7	silty sand to sandy silt
54.99	59.72	0.7368	1.234	15.973	19	7	silty sand to sandy silt
55.05	58.64	0.7219	1.231	15.975	19	7	silty sand to sandy silt
55.12	57.80	0.7097	1.228	16.014	18	7	silty sand to sandy silt
55.18	57.28	0.6838	1.194	16.026	18	7	silty sand to sandy silt
55.25	56.08	0.6540	1.166	16.055	18	7	silty sand to sandy silt
55.31	54.11	0.6329	1.170	16.075	17	7	silty sand to sandy silt
55.38	52.06	0.6220	1.195	16.050	17	7	silty sand to sandy silt
55.45	51.12	0.6194	1.212	16.065	16	7	silty sand to sandy silt
55.51	50.39	0.6080	1.207	16.087	16	7	silty sand to sandy silt
55.58	49.04	0.6340	1.293	16.094	15	7	silty sand to sandy silt
55.64	47.26	0.6946	1.470	16.118	15	7	silty sand to sandy silt
55.71	44.69	0.7621	1.705	16.130	15	7	silty sand to sandy silt
55.77	43.89	0.7371	1.679	16.169	15	7	silty sand to sandy silt
55.84	46.36	0.7188	1.551	16.186	16	7	silty sand to sandy silt
55.91	53.43	0.7007	1.311	16.232	16	7	silty sand to sandy silt
55.97	53.40	0.7157	1.340	16.264	17	7	silty sand to sandy silt
56.04	54.53	0.7429	1.362	16.382	18	7	silty sand to sandy silt
56.10	58.35	0.7595	1.301	16.520	20	7	silty sand to sandy silt
56.17	66.69	0.7705	1.155	16.693	21	7	silty sand to sandy silt
56.23	71.36	0.8065	1.130	16.710	21	7	silty sand to sandy silt
56.30	73.92	0.8082	1.093	16.746	22	7	silty sand to sandy silt
56.36	73.88	0.7788	1.054	16.741	22	7	silty sand to sandy silt
56.43	72.30	0.7549	1.044	16.758	22	7	silty sand to sandy silt
56.50	69.81	0.7178	1.028	16.758	21	7	silty sand to sandy silt
56.56	63.71	0.6751	1.060	16.753	20	7	silty sand to sandy silt
56.63	57.49	0.6405	1.114	16.790	18	7	silty sand to sandy silt
56.69	51.34	0.6125	1.193	16.773	17	7	silty sand to sandy silt
56.76	45.23	0.5566	1.231	16.775	15	7	silty sand to sandy silt
56.82	41.03	0.5138	1.252	16.790	14	7	silty sand to sandy silt
56.89	37.88	0.4823	1.273	16.802	13	7	silty sand to sandy silt
56.96	37.20	0.4685	1.259	16.848	12	7	silty sand to sandy silt
57.02	37.06	0.4605	1.242	16.874	12	7	silty sand to sandy silt
57.09	35.41	0.4811	1.358	17.095	11	7	silty sand to sandy silt
57.15	35.24	0.5254	1.491	17.122	14	6	sandy silt to clayey silt
57.22	34.91	0.5719	1.638	17.163	13	6	sandy silt to clayey silt
57.28	34.39	0.5833	1.696	17.192	13	6	sandy silt to clayey silt
57.35	33.39	0.6193	1.855	17.233	13	6	sandy silt to clayey silt
57.41	32.53	0.5984	1.839	17.243	13	6	sandy silt to clayey silt
57.48	31.24	0.5499	1.760	17.260	13	6	sandy silt to clayey silt
57.55	30.91	0.5333	1.726	17.301	14	6	sandy silt to clayey silt
57.61	33.72	0.5390	1.598	17.369	15	6	sandy silt to clayey silt
57.68	39.70	0.6032	1.519	17.446	13	7	silty sand to sandy silt
57.74	46.57	0.9459	2.031	17.543	14	7	silty sand to sandy silt

*Soil behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt TSF	Fs TSF	Fs/Qt (%)	Pw PSI	SPT N* 60% Hammer	Zone	Soil Behavior Type UBC-1983
57.81	51.98	1.0149	1.953	17.621	15	7	silty sand to sandy silt
57.87	55.02	0.7488	1.361	17.793	17	7	silty sand to sandy silt
57.94	54.93	0.8710	1.586	17.921	20	7	silty sand to sandy silt
58.01	50.59	0.6050	1.196	17.977	24	7	silty sand to sandy silt
58.07	72.64	0.9150	1.260	18.091	21	8	sand to silty sand
58.14	104.62	1.1004	1.052	18.248	25	8	sand to silty sand
58.20	138.24	1.4394	1.041	18.403	29	8	sand to silty sand
58.27	143.06	1.1461	0.801	18.934	33	8	sand to silty sand
58.33	154.97	1.7104	1.104	18.430	37	8	sand to silty sand
58.40	175.26	2.3098	1.318	18.403	41	8	sand to silty sand
58.46	182.47	2.2460	1.231	18.355	43	8	sand to silty sand
58.53	183.74	2.9096	1.584	19.031	46	8	sand to silty sand
58.60	209.09	2.0323	0.972	18.268	46	8	sand to silty sand
58.66	213.18	3.0535	1.432	16.613	46	8	sand to silty sand
58.73	234.59	3.5227	1.502	16.806	45	8	sand to silty sand
58.79	161.30	3.9034	2.420	17.703	43	8	sand to silty sand
58.86	153.19	3.6858	2.406	17.514	54	7	silty sand to sandy silt
58.92	153.46	2.8634	1.866	17.761	51	7	silty sand to sandy silt
58.99	135.57	2.7063	1.996	18.302	47	7	silty sand to sandy silt
59.06	136.30	3.0477	2.236	18.181	47	7	silty sand to sandy silt
59.12	149.38	2.2595	1.513	17.218	47	7	silty sand to sandy silt
59.19	146.88	2.5646	1.746	16.971	36	8	sand to silty sand
59.25	152.23	2.5074	1.647	15.561	38	8	sand to silty sand
59.32	157.34	2.4298	1.544	13.712	40	8	sand to silty sand
59.38	175.37	2.9025	1.655	11.516	55	7	silty sand to sandy silt
59.45	182.69	3.8688	2.118	11.053	57	7	silty sand to sandy silt
59.51	205.92	4.8457	2.353	10.772	56	7	silty sand to sandy silt
59.58	195.73	5.1136	2.613	10.539	54	7	silty sand to sandy silt
59.65	172.47	5.4805	3.178	10.513	61	6	sandy silt to clayey silt
59.71	137.86	5.9836	4.340	10.549	71	12	sand to clayey sand (*)
59.78	119.26	5.9819	5.016	10.510	127	11	very stiff fine grained (*)
59.84	103.42	5.6532	5.466	10.508	114	11	very stiff fine grained (*)
59.91	100.62	5.4446	5.411	10.624	105	11	very stiff fine grained (*)
59.97	102.30	5.1407	5.025	10.479	101	11	very stiff fine grained (*)
60.04	101.07	4.9924	4.940	10.309	99	11	very stiff fine grained (*)
60.10	102.14	4.9719	4.868	10.120	99	11	very stiff fine grained (*)
60.17	108.38	4.9319	4.550	9.934	99	11	very stiff fine grained (*)
60.24	103.31	4.8342	4.680	8.853	99	11	very stiff fine grained (*)
60.30	106.17	4.5680	4.302	8.652	100	11	very stiff fine grained (*)
60.37	102.25	4.4223	4.325	8.501	102	11	very stiff fine grained (*)
60.43	103.82	4.2217	4.066	8.334	104	11	very stiff fine grained (*)
60.50	102.99	4.3363	4.211	8.189	109	11	very stiff fine grained (*)
60.56	117.66	4.7754	4.059	8.007	114	11	very stiff fine grained (*)
60.63	124.80	5.0650	4.059	7.794	48	6	sandy silt to clayey silt
60.70	137.90	5.2491	3.807	7.469	51	6	sandy silt to clayey silt
60.76	146.92	5.3064	3.612	7.103	53	6	sandy silt to clayey silt
60.83	147.05	5.0702	3.448	6.807	54	6	sandy silt to clayey silt
60.89	147.84	4.5402	3.071	6.677	44	7	silty sand to sandy silt
60.96	149.69	2.7609	1.844	6.475	0	0	<out of range>
61.02	134.98	1.8217	1.350	6.320	0	0	<out of range>
61.09	108.04	1.7307	1.602	6.209	35	8	sand to silty sand
61.15	97.88	-32768	-32768	6.107	0	0	<out of range>
61.22	112.41	-32768	-32768	6.097	0	0	<out of range>
61.29	201.42	-32768	-32768	6.342	0	0	<out of range>
61.35	209.94	-32768	-32768	5.625	0	0	<out of range>

*Soil behavior type and SPT based on data from UBC-1983