

Table 2. Soil strength and density										
[The Unified Soil Classification symbols are defined in the description column]										
Site	Sample depth range, ft	Depth, m	Depth, ft	Unified Soil Class	Description	Peak Strength, kPa	Residual Strength, kpa	Remolded Strength, kPa	Sensitivity Peak/Remolded	Density, kg/cm ³
SNC007-1a	1-3	0.56	1.83	CLS	Sandy lean CLAY	91.9	60.9	22.1	4.2	1.87
SNC007-1b	1-3	0.69	2.25	CLS	Sandy lean CLAY	91.9	73	26.6	3.5	1.78
SNC007-1c	1-3	0.84	2.75	CH	Fat CLAY with sand	94.1	69.7	33.2	2.8	1.93
SNC007-2a	3-5	1.30	4.25	CLS	Sandy lean CLAY	94.1	71.9	47.6	2.0	1.93
SNC007-2b	3-5	1.45	4.75	CH	Fat CLAY with sand	97.4	78.6	45.4	2.1	1.98
SNC007-3a	5-7	1.77	5.79	SC	Clayey SAND	74.2	59.8	22.1	3.4	-
SNC007-3b	5-7	1.91	6.25	CH	Fat CLAY with sand	74.2	58.7	27.7	2.7	1.92
SNC007-3c	5-7	2.06	6.75	CH	Fat CLAY with sand	97.4	70.8	38.7	2.5	1.89
SNC007-4a	7-9	2.26	7.42	CH	Fat CLAY	98.5	77.5	28.8	3.4	1.76
SNC007-4b	7-9	2.37	7.79	CH	Fat CLAY with sand	117.3	80.8	38.7	3.0	1.89
SNC007-4c	7-9	2.51	8.25	CH	Fat CLAY with sand	109.6	64.2	37.6	2.9	1.93
SNC007-4d	7-9	2.67	8.75	CH	Fat CLAY	93	73	34.3	2.7	1.84
SNC007-5a	9-11	2.98	9.79	CHS	Sandy fat CLAY	96.3	71.9	40.9	2.4	1.84
SNC007-5b	9-11	3.12	10.25	CHS	Sandy fat CLAY	154.9	114	50.9	3.0	1.97
SNC007-5c	9-11	3.28	10.75	CHS	Sandy fat CLAY	139.4	100.7	46.5	3.0	1.93
SNC007-6a	11-13	3.59	11.79	CH	Fat CLAY with sand	89.6	70.8	28.8	3.1	1.87
SNC007-6b	11-13	3.73	12.25	CH	Fat CLAY with sand	125.1	102.9	36.5	3.4	1.88
SNC007-6c	11-13	3.89	12.75	CHS	Sandy fat CLAY	95.2	71.9	32.1	3.0	1.88
SNC007-7a	13-15	4.09	13.42	CH	Fat CLAY with sand	54.2	37.6	17.7	3.1	1.8
SNC007-7b	13-15	4.20	13.79	CLS	Sandy lean CLAY	47.6	29.9	10	4.8	1.86
SNC007-7c	13-15	4.34	14.25	CLS	Sandy lean CLAY	60.9	44.3	14.4	4.2	1.92
SNC007-7d	13-15	4.50	14.75	CLS	Sandy lean CLAY	39.8	27.7	10	4.0	1.92
SNC007-8a	15-17	4.69	15.38	CLS	Sandy lean CLAY	35.4	23.2	6.6	5.4	1.93
SNC007-8b	15-17	4.81	15.79	CL	Lean CLAY with sand	50.9	37.6	11.1	4.6	1.97
SNC007-8c	15-17	4.95	16.25	CL	Lean CLAY with sand	67.5	48.7	16.6	4.1	1.97
SNC007-8d	15-17	5.11	16.75	CL	Lean CLAY with sand	66.4	46.5	16.6	4.0	1.95
SNC007-9a	17-19	5.30	17.38	CL	Lean CLAY with sand	-	-	-	-	-
SNC007-9b	17-19	5.42	17.79	CLS	Sandy lean CLAY	91.9	60.9	25.5	3.6	1.93
SNC007-9c	17-19	5.56	18.25	CLS	Sandy lean CLAY	101.8	69.7	31	3.3	1.95
SNC007-9d	17-19	5.72	18.75	CLS	Sandy lean CLAY	74.2	53.1	18.8	3.9	1.95
SNC007-10a	19-21	5.92	19.4	CLS	Sandy lean CLAY	-	-	-	-	-
SNC007-10b	19-21	6.03	19.8	CL	Lean CLAY with sand	38.7	27.7	4.4	8.8	-
SNC007-10c	19-21	6.17	20.3	CL	Lean CLAY with sand	78.6	56.4	17.7	4.4	1.95
SNC007-10d	19-21	6.32	20.8	CLS	Sandy lean CLAY	93	68.6	22.1	4.2	1.91
SNC007-11a	21-23	6.57	21.5	CLS	Sandy lean CLAY	-	-	-	-	-
SNC007-11b	21-23	6.69	22.0	CL	Lean CLAY with sand	60.9	44.3	11.1	5.5	1.93
SNC007-11c	21-23	6.82	22.4	CL	Lean CLAY with sand	111.8	80.8	24.3	4.6	1.9
SNC007-11d	21-23	6.95	22.8	CL	Lean CLAY with sand	78.6	60.9	21	3.7	1.94
SNC007-12a	23-25	7.18	23.5	CL	Lean CLAY with sand	58.7	40.9	11.1	5.3	1.87
SNC007-12b	23-25	7.30	24.0	CL	Lean CLAY with sand	42.1	29.9	7.7	5.5	1.87
SNC007-12c	23-25	7.43	24.4	CLS	Sandy lean CLAY	60.9	36.5	11.1	5.5	1.9
SNC007-12d	23-25	7.56	24.8	SC	Clayey SAND	36.5	25.5	5.5	6.6	1.94
SNC007-13a	25-27	7.73	25.4	CLS	Sandy lean CLAY	27.7	16.6	3.3	8.4	1.95
SNC007-13b	25-27	8.00	25.8	CL	Lean CLAY with sand	25.5	16.6	3.3	7.7	1.91
SNC007-13c1	25-27	8.21	26.2	SM	Silty SAND	26.6	18.8	4.4	6.0	1.9
SNC007-13c2	25-27	8.29	26.6	SM	Silty SAND	-	-	-	-	1.93
SNC007-13d	25-27	8.37	26.9	SM	Silty SAND	-	-	-	-	1.93
SNC007-14a	27-29	8.45	27.4	SM	Silty SAND	-	-	-	-	-
SNC007-14b1	27-29	8.53	27.6	SM	Silty SAND	25.5	19.9	2.2	11.6	1.94
SNC007-14b2	27-29	8.61	27.9	CLS	Sandy lean CLAY	43.2	28.8	5.5	7.9	1.94
SNC007-14c1	27-29	8.69	28.3	SM	Silty SAND	-	-	-	-	1.85
SNC007-14c2	27-29	8.77	28.5	SM	Silty SAND	33.2	-	4.4	7.5	1.85
SNC007-14d1	27-29	8.85	28.7	SM	Silty SAND	-	-	-	-	1.92
SNC007-14d2	27-29	8.93	28.9	CLS	Sandy lean CLAY	-	-	-	-	1.92
SNC007-15a1	29-31	9.01	29.2	SM	Silty SAND	16.6	10	2.2	7.5	1.9

Site	Sample depth range, ft	Depth, m	Depth, ft	Unified Soil Class	Description	Peak Strength, kPa	Residual Strength, kpa	Remolded Strength, kPa	Sensitivity Peak/Remolded	Density, kg/cm ³
SNC007-15a2	29-31	9.09	29.5	SM	Silty SAND	27.7	15.5	3.3	8.4	1.92
SNC007-15b	29-31	9.17	29.9	SC	Clayey SAND	-	-	-	-	-
SNC007-15c	29-31	9.25	30.3	SC	Clayey SAND	21	13.3	4.4	4.8	1.94
SNC007-15d1	29-31	9.35	30.6	SM	Silty SAND	56.4	33.2	6.6	8.5	1.95
SNC007-15d2	29-31	9.45	30.9	CLS	Sandy lean CLAY	-	-	-	-	-
SNC007-16a	31-33	9.60	31.3	SC	Clayey SAND	33.2	19.9	6.6	5.0	1.89
SNC007-16b	31-33	9.68	31.8	CLS	Sandy lean CLAY	43.2	33.2	8.9	4.9	1.91
SNC007-16c	31-33	9.83	32.3	CLS	Sandy lean CLAY	43.2	31	7.7	5.6	1.9
SNC007-16d1	31-33	9.94	32.6	CLS	Sandy lean CLAY	28.8	21	6.6	4.4	1.88
SNC007-16d2	31-33	10.02	32.9	CL	Lean CLAY with sand	-	-	-	-	-
SNC007-17a	33-35	10.15	33.3	CL	Lean CLAY with sand	48.7	37.6	11.1	4.4	1.85
SNC007-17b	33-35	10.29	33.8	CLS	Sandy lean CLAY	62	43.2	12.2	5.1	1.93
SNC007-17c	33-35	10.44	34.3	CLS	Sandy lean CLAY	55.3	40.9	10	5.5	1.9
SNC007-17d	33-35	10.60	34.8	SM	Silty SAND	69.7	44.3	14.4	4.8	2.01
SNC007-18b	35-37	10.75	35.7	CLS	Sandy lean CLAY	28.8	19.9	6.6	4.4	-
SNC007-18c1	35-37	10.90	36.1	SM	Silty SAND	29.9	23.2	5.5	5.4	-
SNC007-18c2	35-37	11.02	36.3	SC	Clayey SAND	36.5	25.5	4.4	8.3	-
SNC007-18d	35-37	11.25	36.4	SM	Silty SAND	-	-	-	-	-
SNC007-18e	35-37	11.35	36.7	SM	Silty SAND with gravel	-	-	-	-	-
SNC007-19a	37-39	11.50	37.3	SM	Silty SAND with gravel	-	-	-	-	-
SNC007-19b1	37-39	11.60	37.7	SP-SM	SAND with silt	-	-	-	-	1.95
SNC007-19b2	37-39	11.72	38.0	CLS	Sandy lean CLAY	150.5	62	19.9	7.6	
SNC007-19c	37-39	11.80	38.3	CL	Lean CLAY with sand	167.1	59.8	32.1	5.2	2.00
SNC007-19d	37-39	11.90	38.8	CLS	Sandy lean CLAY	170.4	88.5	42.1	4.0	2.03
SNC007-20a	39-40	12.00	39.3	CLS	Sandy lean CLAY	277	-	-	-	2.2
SNC007-20b	39-40	12.12	39.8	CLS	Sandy lean CLAY	258	-	-	-	2.07
Stake 11										
Stake 11-1D	2-4	0.69	2.3	SM	Silty sand	56.4	46.5	17.7	3.2	1.61
Stake 11-1C	2-4	0.84	2.8	CLS	Sandy lean clay	132.8	94.1	25.5	5.2	1.63
Stake 11-1B	2-4	0.99	3.3	CLS	Sandy lean clay	168.2	104	28.8	5.8	1.69
Stake 11-1A	2-4	1.14	3.8	CL	Lean clay with sand	153.8	110.7	38.7	4.0	1.75
Stake 11-2A	4-6	1.30	4.3	CH	Fat Clay with sand	143.9	102.9	39.8	3.6	1.88
Stake 11-2B	4-6	1.45	4.8	CH	Fat Clay with sand	169.3	95.2	39.8	4.3	1.97
Stake 11-2C	4-6	1.60	5.3	CH	Fat Clay with sand	140.6	94.1	44.3	3.2	2.05
Stake 11-2D	4-6	1.75	5.8	CH	Fat Clay with sand	161.6	100.7	43.2	3.7	1.94
Stake 11-3A	6-8	1.93	6.3	CH	Fat Clay with sand	212.5	107.4	54.2	3.9	2.03
Stake 11-3B	6-8	2.13	7.0	CH	Fat Clay with sand	191.5	98.5	43.2	4.4	2.07
Stake 11-3C	6-8	2.33	7.7	CH	Fat Clay with sand	176	120.6	70.8	2.5	2.06
Stake 11-4A	8-10	2.51	8.3	CH	Fat Clay with sand	128.4	94.1	53.1	2.4	2.02
Stake 11-4B	8-10	2.67	8.8	CH	Fat Clay with sand	153.8	107.4	54.2	2.8	2.04
Stake 11-4C	8-10	2.82	9.3	CH	Fat Clay with sand	152.7	93	58.7	2.6	1.98
Stake 11-4D	8-10	2.97	9.8	CH	Fat clay	142.8	93	53.1	2.7	1.96
Stake 11-5A	10-12	3.20	10.5	CH	Fat clay	121.7	81.9	43.2	2.8	1.91
Stake 11-5B	10-12	3.51	11.5	CH	Fat clay with sand	190.4	118.4	75.3	2.5	2
Stake 11-6A	12-14	3.73	12.3	CH	Fat clay with sand	138.3	101.8	54.2	2.6	2.05
Stake 11-6B	12-14	3.89	12.8	CLS	Sandy lean clay	107.4	74.2	31	3.5	1.95
Stake 11-6C1	12-14	3.99	13.1	CLS	Sandy lean clay	75.3	59.8	19.9	3.8	2.01
Stake 11-6C2	12-14	4.07	13.4	CL	Lean clay with sand	-	-	-	-	-
Stake 11-6D	12-14	4.19	13.8	CLS	Sandy lean clay	127.3	88.5	40.9	3.1	2.04
Stake 11-7A	15-17	4.65	15.3	CLS	Sandy lean clay	120.6	68.6	36.5	3.3	1.76
Stake 11-7B	15-17	4.80	15.8	CLS	Sandy lean clay	139.4	45.4	32.1	4.3	1.91
Stake 11-7C	15-17	4.95	16.3	CL	Lean clay with sand	104	68.6	33.2	3.1	1.88
Stake 11-7D1	15-17	5.11	16.8	CL	Lean clay with sand	75.3	60.9	17.7	4.3	1.93
Stake 11-7D2	15-17	5.17	17.0	CL	Lean clay with sand	-	-	-	-	-
Stake 11-8A	17-19	5.26	17.3	CLS	Sandy lean clay	78.6	58.7	29.9	2.6	1.85
Stake 11-8B	17-19	5.41	17.8	CLS	Sandy lean clay	74.2	55.3	24.3	3.1	1.9

Site	Sample depth range, ft	Depth, m	Depth, ft	Unified Soil Class	Description	Peak Strength, kPa	Residual Strength, kpa	Remolded Strength, kPa	Sensitivity Peak/Remolded	Density, kg/cm ³
Stake 11-8C	17-19	5.56	18.3	CLS	Sandy lean clay	63.1	48.7	19.9	3.2	1.94
Stake 11-8D	17-19	5.72	18.8	CLS	Sandy lean clay	44.3	32.1	12.2	3.6	1.93
Stake 11-9A	19-21	5.87	19.3	SC	Clayey sand	33.2	27.7	1.1	30.2	1.92
Stake 11-9B1	19-21	5.97	19.6	CLS	Sandy lean clay	23.2	18.8	2.2	10.5	1.89
Stake 11-9B2	19-21	6.06	19.9	CLS	Sandy lean clay	23.2	18.8	2.2	10.5	1.89
Stake 11-9C1	19-21	6.18	20.3	CL	Lean clay with sand	29.9	22.1	3.3	9.1	1.9
Stake 11-9C2	19-21	6.28	20.6	CL	Lean clay with sand	-	-	-	-	-
Stake 11-10A	21-23	6.48	21.3	MLS	Sandy silt	58.7	42.1	4.4	13.3	1.86
Stake 11-10B1	21-23	6.59	21.6	CL	Lean clay with sand	39.8	29.9	3.3	12.1	1.84
Stake 11-10B2	21-23	6.67	21.9	CH	Fat Clay with sand	39.8	29.9	3.3	12.1	1.84
Stake 11-10C	21-23	6.78	22.3	CH	Fat Clay with sand	45.4	37.6	5.5	8.3	1.88
Stake 11-10D	21-23	6.93	22.8	CH	Fat Clay with sand	71.9	55.3	16.6	4.3	1.95
Stake 11-11A	23-25.25	7.04	23.1	CH	Fat Clay with sand	-	-	-	-	-
Stake 11-11B	23-25.25	7.16	23.5	CH	Fat Clay with sand	77.5	62	18.8	4.1	1.87
Stake 11-11C	23-25.25	7.32	24.0	CH	Fat Clay with sand	105.1	71.9	35.4	3.0	1.89
Stake 11-11D	23-25.25	7.54	24.8	CL	Lean clay with sand	62	50.9	13.3	4.7	1.85
Stake 11-12A	25.25-27	7.73	25.4	CH	Fat Clay with sand	-	-	-	-	1.85
Stake 11-12B	25.25-27	7.85	25.8	CL	Lean clay with sand	73	58.7	22.1	3.3	1.9
Stake 11-12C	25.25-27	8.00	26.3	CL	Lean clay with sand	107.4	73	29.9	3.6	1.94
Stake 11-12D	25.25-27	8.15	26.8	CL	Lean clay with sand	101.8	64.2	32.1	3.2	1.93
Stake 11-13A	27-29	8.31	27.3	CH	Fat clay	76.4	55.3	18.8	4.1	1.94
Stake 11-13B	27-29	8.46	27.8	CLS	Sandy lean clay	105.1	76.4	27.7	3.8	2
Stake 11-13C	27-29	8.61	28.3	CLS	Sandy lean clay	116.2	83	31	3.7	2.05
Stake 11-13D	27-29	8.76	28.8	CH	Fat clay with sand	132.8	105.1	44.3	3.0	2
Stake 11-14A	29-31	8.92	29.3	CH	Fat clay	132.8	75.3	27.7	4.8	1.95
Stake 11-14B	29-31	9.07	29.8	CH	Fat clay with sand	141.7	84.1	34.3	4.1	1.97
Stake 11-14C	29-31	9.22	30.3	CH	Fat Clay with sand	151.6	110.7	38.7	3.9	2.06
Stake 11-15A	31-33	9.53	31.3	CLS	Sandy lean clay	71.9	52	19.9	3.6	1.78
Stake 11-15B	31-33	9.68	31.8	CLS	Sandy lean clay	79.7	62	22.1	3.6	2.02
Stake 11-15C	31-33	9.83	32.3	CH	Fat clay	95.2	70.8	19.9	4.8	1.91
Stake 11-15D	31-33	9.98	32.8	CL	Lean clay with sand	79.7	60.9	22.1	3.6	2.03
Stake 11-16A	33-35	10.13	33.3	CH	Fat Clay with sand	70.8	49.8	11.1	6.4	-
Stake 11-16B	33-35	10.29	33.8	CH	Fat Clay with sand	81.9	56.4	17.7	4.6	1.90
Stake 11-16C	33-35	10.44	34.3	CL	Lean clay with sand	88.5	70.8	15.5	5.7	1.97
Stake 11-16D	33-35	10.59	34.8	CL	Lean clay with sand	70.8	54.2	12.2	5.8	1.92
Stake 11-17A1	35-37	10.71	35.1	CL	Lean clay with sand	88.5	53.1	22.1	4.0	2.04
Stake 11-17A2	35-37	10.78	35.4	CLS	Sandy lean clay	-	-	-	-	-
Stake 11-17B	35-37	10.90	35.8	SM	Silty sand	80.8	54.2	15.5	5.2	2.06
Stake 11-17C	35-37	11.05	36.3	SC	Clayey sand	71.9	49.8	11.1	6.5	2.07
Stake 11-17D1	35-37	11.16	36.6	CLS	Sandy lean clay	108.5	80.8	25.5	4.3	2.09
Stake 11-17D2	35-37	11.24	36.9	CLS	Sandy lean clay	-	-	-	-	-
Stake 11-18A	37-39	11.35	37.3	CLS	Sandy lean clay	101.8	68.6	23.2	4.4	2.04
Stake 11-18B	37-39	11.51	37.8	CL	Lean clay with sand	125.1	73	34.3	3.6	2.02
Stake 11-18C	37-39	11.66	38.3	CL	Lean clay with sand	127.3	78.6	32.1	4.0	2
Stake 11-18D1	37-39	11.77	38.6	CL	Lean clay with sand	163.8	76.4	37.6	4.4	1.95
Stake 11-18D2	37-39	11.85	38.9	CL	Lean clay with sand	-	-	-	-	-
Stake 11-19A	39-41	11.96	39.3	CH	Fat Clay with sand	152.7	84.1	42.1	3.6	2.06
Stake 11-19B	39-41	12.12	39.8	CH	Fat Clay with sand	199	-	-	-	2.1
Stake 11-19C	39-41	12.27	40.3	CLS	Sandy lean clay	199	-	-	-	2.12
Stake 11-19D1	39-41	12.38	40.6	CLS	Sandy lean clay	199	-	-	-	1.9
Stake 11-19D2	39-41	12.46	40.9	CHS	Sandy fat clay	-	-	-	-	-