



ZONE	q_c/N^1	S_u Factor $(Nk)^2$	SOIL BEHAVIOR TYPE ¹
1	2	15 (10 for $q_c \leq 9$ tsf)	Sensitive Fine-Grained
2	1	15 (10 for $q_c \leq 9$ tsf)	Organic Material
3	1	15 (10 for $q_c \leq 9$ tsf)	CLAY
4	1.5	15	SILTY CLAY to CLAY
5	2	15	CLAYEY SILT to SILTY CLAY
6	2.5	15	SANDY SILT to CLAYEY SILT
7	3	---	SILTY SAND to SANDY SILT
8	4	---	SAND to SILTY SAND
9	5	---	SAND
10	6	---	GRAVELLY SAND to SAND
11	1	15	Very Stiff Fine-Grained (*)
12	2	---	SAND to CLAYEY SAND (*)

(*) Overconsolidated or Cemented

q_c = Tip Bearing

f_s = Sleeve Friction

$R_f = f_s/q_c \times 100$ = Friction Ratio ,

Note: Testing performed in accordance with ASTM D3441.

References: 1. Robertson, 1986, Olsen, 1988.

2. Bonaparte & Mitchell, 1979 (young Bay Mud $q_c \leq 9$).

Estimated from local experience (fine-grained soils $q_c > 9$).

BLOCKS 29-32
MISSION BAY
 San Francisco, California

Treadwell & Rollo
 A LANGAN COMPANY

**CLASSIFICATION CHART FOR
 CONE PENETRATION TESTS
 FOR C30-1 AND C32-1**

Date 11/15/11

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Figure B-7