

MATERIALS TESTING REPORT:  
 VISUAL SOIL CLASSIFICATION

Project \_\_\_\_\_ Location \_\_\_\_\_ Sampled by \_\_\_\_\_ Tested by \_\_\_\_\_

Identification				Coarse fraction				Fine fraction				Total soil			Classification		
Testing section sample No.	Test hole No.	Field sample No.	Depth (ft)	Maximum size (mm)	Particle shape	Particle condition	Gravel (3in. to No. 4)	Sand (No. 4 to 200)	Fines (-No. 200)	Plasticity	Dry strength	Dilatance	Organic odor (wet)	Reaction to HCL	Color (wet)	Description (classification, grading, structure, consistency, moisture condition, inclusions, etc.)	Group symbol

Remarks \_\_\_\_\_ Signature \_\_\_\_\_

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Standard descriptions of identification test reactions

Test	Description	Symbol	Identification or test reaction
Particle shape	Angular	A	Irregular shape; sharp edges.
	Subangular	SA	Irregular shape; fairly sharp edges.
	Subrounded	SR	Irregular shape; rounded edges.
	Rounded	R	Fairly regular shape; rounded edges.
Particle condition	Hard	H	Rubber pestle will not break particles.
	Soft	S	Rubber pestle will break particles.
	Vesicular	V	Individual grains contain air voids.
	Dense	D	Irregular shape; sharp edges.
Plasticity	High	H	Tough thread, will remold below plastic limit.
	Medium	M	Medium tough thread, crumbles below plastic limit.
	Low	L	Weak thread, will not remold at plastic limit.
	None	N	Will not form thread.
Dry strength	High	H	Difficult to break by finger pressure.
	Medium	M	Considerable finger pressure to crumble.
	Low	L	Will crumble at light finger pressure.
	None	N	Will not form soil pat.
Dilatance	Rapid	R	Water surfaces immediately.
	Slow	S	Water surfaces slowly.
	None	N	Water will not surface.
HCL	Positive	+	Effervescence.
	Negative	-	No reaction.
Organic odor	Strong	S	Strong odor when moist and hot.
	Weak	W	Weak odor when moist and hot.
	None	N	No organic odor.

Soil identification criteria

Group	Organic odor	Visual examination			Character of fines (-No. 40)		
		Grading	Percent fines	Dominant fraction	Dilatance	Dry strength	Plasticity
ML	Weak	Not a criterion for classification	Over 50	Fines	Rapid	None-Low	None-Low
CL	"		"	"	None-Slow	Medium-High	Medium
CH	"		"	"	None	High	High
MH	"		"	"	None-Slow	Low-Medium	Low-Medium
OL, OH	Strong		"	"	None	Low-Medium	Medium (spongy)
SM	Weak		12-50	Sand	Fines classify as ML or MH		
GM	"		"	Gravel	Fines classify as CL or CH		
SC	"		"	Sand			
GC	"		"	Gravel			
SP	"		Poor	Under 5			
GP	"	"	"	Gravel	Not a criterion for classification		
SW	"	Well	"	Sand			
GW	"	"	"	Gravel			
Pt	Strong	Identify by high fibrous organic content					