

TOTAL SOIL - All Material Smaller Than 3 Inches

COARSE-GRAINED SOILS		GRAVELS		CLEAN GRAVELS Less than 5% smaller than No. 200 sieve size.	GRAVELS WITH FINES More than 12% smaller than No. 200 sieve size.	Dual symbols required when 5 to 12% (incl.) passes No. 200 sieve	WELL GRADED Meets gradation requirements	GRADATION REQUIREMENTS FOR GW: $C_u = \frac{D_{60}}{D_{10}} > 4$ and $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	GW
SANDS		SANDS					CLEAN SANDS Less than 5% smaller than No. 200 sieve size.		SANDS WITH FINES More than 12% smaller than No. 200 sieve size.
FINE-GRAINED SOILS		SILTS AND CLAYS		LL ≤ 50		Dual symbols required when LL vs PI plots in cross-hatched area	WELL GRADED Meets gradation requirements	GRADATION REQUIREMENTS FOR SW: $C_u = \frac{D_{60}}{D_{10}} > 6$ and $C_c = \frac{(D_{10})^2}{D_{10} \times D_{60}}$ between 1 and 3	GM
50% or more of material (by dry weight) is smaller than No. 200 sieve size.		ORGANIC		LL > 50			Dual symbols required when LL vs PI plots in cross-hatched area		POORLY GRADED Does not meet gradation requirements
		ORGANIC		LL > 50			LL vs PI of material passing No. 40 sieve size plots below A-Line or PI less than 4		SC
		INORGANIC		LL > 50			LL vs PI of material passing No. 40 sieve size plots above A-Line or PI more than 7		ML
		INORGANIC		LL > 50			LL vs PI plots below A-Line or PI less than 4	<p>PLASTICITY CHART Use this chart for classification of fine-grained soils and fine fraction of coarse-grained soils.</p>	CL
		INORGANIC		LL > 50			LL vs PI plots above A-Line or PI more than 7		OL
		ORGANIC		LL > 50			LL vs PI plots below A-Line or PI less than 4 (see note below)		MH
		INORGANIC		LL > 50			LL vs PI plots below A-Line		CH
		INORGANIC		LL > 50			LL vs PI plots above A-Line		OH
		ORGANIC		LL > 50			LL vs PI plots below A-Line (see note below)		
HIGHLY ORGANIC SOILS (see note below)									Pt

Note: $\frac{LL \text{ (oven dry soil)}}{LL \text{ (air dry soil)}} < 0.75$

Figure 2D - 2. Laboratory criteria for identifying soils (Unified Soil Classification System)