

PROJECT NO. 1970965.010103.ai 07/01/02 SLC

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	LETTER DESCRIPTIONS	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	Well-graded gravels, gravel-sand mixtures, little or no fines	
				GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	
	MORE THAN 60% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	Silty gravels, gravel-sand-silt mixtures	
				GC	Clayey gravels, gravel-sand-clay mixtures	
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	Well-graded sands, gravelly sands, little or no fines	
				SP	Poorly graded sands, gravelly sands, little or no fines	
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	Silty sands, sand-silt mixtures	
				SC	Clayey sands, sand-clay mixtures	
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
				OL	Organic silts and organic silty clays of low plasticity	
	MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
					CH	Inorganic clays of high plasticity, fat clays
					OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS				PT	Peat, humus, swamp soils with high organic contents	

Note: For coarse soils: gravels and sands with 5 to 12 percent fines require dual symbols. Soils 15 percent sand or gravel, add with sand or with gravel. For fine grained soils: If 15 to 29 percent sand or gravel add with sand or with gravel or name. If 30 percent sand or gravel add sandy or gravelly to group name.

USCS adopted by Corps of Engineers and Bureau of Reclamation, January, 1952, in collaboration with A. Casagrande, PhD.

U.S. Army Corps of Engineers	
PROJECT: BOSQUE AND LEON RIVER WATERSHEDS STUDY	
DRAWING TITLE: UNIFIED SOIL CLASSIFICATION SYSTEM	
 MWH MONTGOMERY WATSON HARZA	
Sheet 1 of 1 sheets	
SCALE: No Scale	FIGURE: 2-12