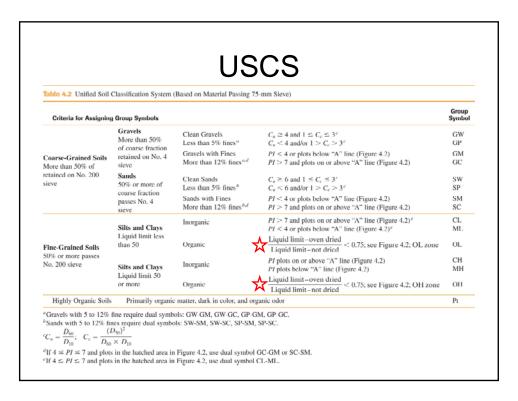
## Organic Silts and Clays

If the soil has a dark color and an organic odor when moist and warm, a second liquid limit test shall be performed on a test specimen which has been oven dried at  $110 \pm 5^{\circ}$ C to a constant weight.

The soil is an organic silt or organic clay if the liquid limit after oven drying is less than 75 % of the liquid limit of the value determined before oven drying.



## Example

The table below shows the sieve analysis results obtained on a sample of soil. Assume that tests on the portion passing the No. 40 sieve show LL = 16 and PL = 11. Classify the soil using the USCS.

U.S. sieve (1)	Opening (mm) (2)	Mass retained on each sieve (g) (3)	Cumulative mass retained above each sieve (g) (4)	Percent finer <sup>a</sup> (5)
4	4.75	0	0	100
10	2.00	21.6	21.6	95.2
20	0.850	49.5	71.1	84.2
40	0.425	102.6	173.7	61.4
60	0.250	89.1	262.8	41.6
100	0.150	95.6	358.4	20.4
200	0.075	60.4	418.8	6.9
Pan	_	31.2	$450 = \Sigma M$	

Example 2.1

## Example

Part c From Eq. (2.7),

$$C_u = \frac{D_{60}}{D_{10}} = \frac{0.41}{0.09} = 4.56$$

Part d

From Eq. (2.8),

$$C_c = \frac{D_{30}^2}{D_{60} \times D_{10}} = \frac{(0.185)^2}{(0.41)(0.09)} = \mathbf{0.93}$$

Example 2.1

## **Dual-Symbol Sands and Gravels**

If the fines plot as a silty clay, CL-ML, the second group symbol should be either GC or SC.

For example, a poorly graded sand with 10% fines, a liquid limit of 20, and a plasticity index of 6 would be classified as a poorly graded sand with silty clay, SP-SC.