CIVL 1112 – Assignment #8

Name: _____

The purpose of this assignment is twofold: first, to measure particle size characteristics of materials used in our next project, and second, to become familiar with the ASCE author-date citation system.

Part 1: The following are the results of a sieve analysis:

Sieve Number	Mass of soil retained on each sieve (g)	Percent retained on each sieve (%)	Cumulative percent retained on each sieve (%)	Percent finer (%)
4	0			
10	41.2			
20	55.1			
40	80.0			
60	91.6			
100	60.5			
200	35.6			
Pan	21.5			

Determine (a) the percent finer for each sieve and plot the particle-size distribution curve; (b) estimate $\mathbf{D_{10}}$, $\mathbf{D_{30}}$, and $\mathbf{D_{60}}$ from the particle-size distribution curve; (c) the effective size; (d) the uniformity coefficient, $\mathbf{C_u}$; and (e) the coefficient of gradation, $\mathbf{C_c}$.

Part 2: For the sieve analysis performed in laboratory determine: (a) the percent finer for each sieve and plot the particle-size distribution curve; (b) estimate $\mathbf{D_{10}}$, $\mathbf{D_{30}}$, and $\mathbf{D_{60}}$ from the particle-size distribution curve; (c) the effective size; (d) the uniformity coefficient, $\mathbf{C_u}$; and (e) the coefficient of gradation, $\mathbf{C_c}$. If you cannot obtain data in the lab, use the following data for anthracite.

Sieve Number	Mass of soil retained on each sieve (g)	Percent retained on each sieve (%)	Cumulative percent retained on each sieve (%)	Percent finer (%)
4	0.1			
8	0.3			
16	378.9			
30	104.9			
50	26.4			
100	0.2			
Pan	0.2			

Part 3: Follow ASCE citation guidelines to prepare a reference page.

Part 4: Read Chapter 8 in the *Strategies for Creative Problem Solving* by Fogler and LeBlanc and prepare for a quiz.