LABORATORY SOIL ANALYSIS

PROCEDURE

1. Work only with one sample at a time.
2. Dump the sample out onto the metal tray and split the sample.
3. Retain ½ of the sample in its natural state and replace into the baggie.
4. Scoop up ½ of the sample and place into a metal loaf pan. (Use equal sized loaf pans.)
5. Label the sample with a small piece of card stock. (It is suggested the label contain the client name, Profile hole # and depth at which sample was taken. e.g. Miller-2-36)
6. *Repeat the above step for all samples.*
7. Place all the samples on the oven and set to #4 and push the toggle switch ON.
8. Make note of the time and remove samples from the oven in 4 hours, turn OFF.
9. Place a paper clip bundle on the scale arm end to tare the weight of the particular sized loaf pan you are using. Weigh the total sample and record on the lab sheet.
10. Rub sample between the hands to crush the soil clods and rub the soil off of any rocks that are present. (If necessary use a rolling pin to crush particularly hard soil clods, but pay attention that you do not crush soft rocks into sand and skew your test.)
11. Sieve the sample in the #10 sieve, place the soil back into the loaf pan, place rocks in a second loaf pan of equal size with a cord stock label.
12. Weigh and record the weight of the rocks extracted from the sample. Remove the paper clip tare weight for the loaf pans. Set rocks aside.
13. Place a piece of card stock on the scale and tare the scale to the weight of the paper.
14. Set the scale to 50 (loam soils) or 100 (very sandy soils) grams depending on the soil sample. (Be sure to record on lab sheet what sample weight you used!) Begin to spoon

the sample onto the card stock paper on the scale until the scale arm rises to a balanced position.

15. Remove the card stock with measured soil and pour it into a plastic jar.
16. Label the plastic jar (not the lid) with a small sticky label with the sample ID on it.
17. Place 100 ml of dispersant solution into plastic jar, cap and shake. Set aside for 16 hrs.
18. *Repeat steps for all samples.*
19. Empty plastic jar into the steel milkshake mixer can. Rinse the jar with distilled water into the mixer can.
20. Place the mixer can into the mixer and mix for at least 1 minute.
21. Remove the label from the plastic jar and place it on a 1-liter cylinder jar.
22. Put the red funnel on the cylinder jar and empty the mixer can into the funnel. Rinse the mixer can into the funnel with the squirt bottle.
23. Add additional distilled water up to the 1-liter mark on the cylinder.
24. *Repeat these steps for all samples.*
25. Line up your cylinders on the counter in the order as on your lab sheet.
26. Measure and record the temperature of one of the samples.
27. Stir the first sample using the plunger stir stick for 10 secs. At the second hand straight, up stop stirring and place the stick in the next sample cylinder.
28. Place the hydrometer bulb in the sample gently. At 40 seconds past straight up, read the bulb at the meniscus and record on the lab sheet.
29. *Repeat for each sample.*
30. Set timer for 2 hours from the first reading.
31. At 2 hours later, measure and record the temperature of one of the samples.
32. Place the bulb gently into the sample and read the bulb at the meniscus and record on the lab sheet. *Repeat for each sample.*
33. Calculate the results according to the lab sheet.