Soil Bulk Density

Materials:
5cm PVC coring cylinders (PVC diam.= 5.3cm, height=5cm, volume=110.31cm^3)
Putty knife or solid metal spatula
Large Whirlpak's or quart sized Zip-lock bags
Sharpie
Drying oven
Aluminum weigh boats

Sample Collection:
1. Take coring cylinder and firmly press into the ground until the top was even with the ground. If micro-topography is encountered, make sure the positive "hills" balance with negative space within the cylinder.
2. If rocks are encountered, avoid pushing a rock further into the soil profile with the edge of the PVC. Pick a new coring location if this occurs.
3. To extract the PCV core gently dig around the PVC and insert putty knife underneath cylinder while attempting to minimize disturbance.
4. Dump sample into labeled bag (site, transect #, date, transect stop). It is important that all sample from the core is transferred to the bag.
5. If bags remain airtight prior to laboratory processing, this measurement maybe combined with the "Gravimetric Soil Moisture" procedure.

Laboratory Processing:
1. Label the weigh-boat with site ID.
2. Using the Denver Instruments Balance, weigh pre-labeled boat.
3. Record boat weight.
4. Place samples in drying oven for 48 hours at 105°C
5. Take the final weight of dry soil plus tin.

Calculation:

$$\text{Soil Bulk Density} = \frac{(soil_{drysoil+tin} - tin)}{soil\ volume}$$