

**SOIL EXTRACTION PROTOCOL
AIR RESOURCES BOARD PROJECT**

June 22, 1995

Preparation.

1. Dissolve 1193 g KCl in 8 L deionized water, 3 times.
2. Label and weigh empty 8 oz specimen cups + lids.
3. Measure 150 mL 2 M KCl into each 8 oz specimen cup.
4. Weigh cups + lids + KCl.
5. Label large plastic bags.
6. Label small plastic bags.
7. Label 4 oz specimen cups.
8. Label Lachat tubes.
9. Rinse Whatman #1 filter papers with 3 rinses of 2 M KCl (may be done in stacks of 25).

In the Field.

1. Soil cores will be taken at a distance of 30 cm from each gas flux ring.
2. Pound a 7 cm diameter core into the soil
3. Empty the soil into a plastic bag
4. Mix thoroughly
5. Using a 50 mL beaker, remove 2 scoops of soil into a separate plastic bag for moisture determinations and NPs
6. Using the 50 mL beaker, remove 1 scoop of soil, empty it into a 150 mL of 2 M KCl and shake.
Put on ice.
7. Return the unused soil to the hole.

Laboratory.

1. Weigh the cups + lids + KCL + soil.
2. Shake soil slurries for 1 hr.
3. Put rinsed 18.5 cm diam. Whatman #1 filters in filter funnels.
4. Rinse each filter with 25 mL 2 M KCl, then discard the filtrate and the cup it was rinsed into.
5. Place clean, labeled 4 oz specimen cups under the funnels.
6. After soils have shaken for 1 hr, pour the liquid into the filter, and retain all fractions larger than 2 mm in the 8 oz cup. (The less sediment that goes into the filter, the faster it will drain.)
7. Pour off an aliquot of the extract into a Lachat tube (leave 1 cm empty at the top), then cap off the Lachat tube and the cup, and put them in an ice chest with dry ice.
8. From the bag of soil reserved for water content, measure about 20 g of soil into a weighing tin and record the fresh weight.
9. Dry the soils in a 70° C oven overnight.
10. Sieve the residues from the soil extracts through a 2 mm mesh.
11. Place the rocks in weighing tins, and dry in a 70° C oven overnight.
12. Record the dry rock weights from the soil slurries, then discard the rocks.
13. Weigh the dry water-content soil samples.
14. Wet-sieve the water-content soil samples through a w mm mesh.
15. Place the rocks in weighing tins, and dry in a 70° C oven over night.
16. Record the dry rock weights from the water-content samples, then discard the rocks.