SCHEDULE 2

METHODS OF ANALYSIS

PART II

9a.

DETERMINATION OF BORON — TITRIMETRIC METHOD

Preparation of the solution for analysis

In the absence of organic matter

In the absence of organic matter

6.1.—(6.1.1) Weigh to the nearest 0.001 g, 2g of the prepared sample if the boron content is 0.5% or less, or 1 g if the boron content is from 0.5 – 1.0%, and place in a 400 ml beaker. Add 100 ml water, a few drops of phenolphthalein indicator solution (3.10) and sufficient sodium carbonate (3.3) to make the solution slightly alkaline. Boil gently and keep the boiling solution alkaline, adding more sodium carbonate (3.3) as necessary until all the ammonia which may be present has been evolved. Cool the solution and add 12 ml hydrochloric acid solution (3.4).

In the presence of organic matter

(6.1.2) Weigh to the nearest 0.001 g, 2 g of the prepared sample if the boron content is 0.5% or less, or 1 g if the boron content is from 0.5 – 1.0%, and place it in a silica dish. Add 0.2 g calcium oxide (3.1) for each 1 g of sample, moisten with water, mix thoroughly, evaporate the mixture to dryness and transfer the crucible to a cold muffle furnace. Raise the temperature slowly to 4.50 ± 10°C and then ignite for about 3 hours. Remove the crucible from the furnace, cool and moisten the ash with 10 ml of hydrochloric acid solution (3.4). Warm the solution on a steam bath for 15 minutes, covering the dish with a watch glass. Transfer the contents of the dish quantitatively into a 400 ml beaker, add a few drops of phenolphthalein indicator solution (3.10) and dilute to about 120 ml with water.