THE VALUATION OF COAL FOR STEAMING PURPOSES

PROXIMATE ANALYSIS

Moisture.—Dry one gram of coal in an open porcelain or platinum crucible at 104°-107° C. for one hour, best in a double walled bath containing pure toluene. Cool in a desiccator and weigh covered. The loss in weight represents moisture* Coals containing more than two per cent. moisture can not be pulverized without loss of some of this from air drying. In this case a determination should be made using from 10-100 grams of coarsely ground coal, and also one upon the finely ground coal. In reporting the analysis the percentage of moisture in the coarsely ground sample is given. The results obtained by the use of the finely ground one are merely to correct the determination of volatile combustible matter, ash, etc., which would otherwise be too high since they are made upon the finely ground sample, containing less moisture than the true percentage. To correct the other constituents, when the moisture is made upon the coarse sample: Divide the difference between the two moisture determinations by 100 less the percentage of moisture in the fine sample. Multiply the per cent. of each constituent as found in the finely ground sample by the above quotient and subtract the resulting product from the amount of the given constituent. The difference is the per cent. of the given constituent in the coarse sample.

Volatile Combustible Matter.—Place one gram of fresh undried finely ground coal on a platinum crucible, weighing twenty or thirty grams and having a tightly fitting cover. Heat over the full flame of a Bunsen burner for seven minutes. The crucible should be supported on a platinum triangle with its bottom six or eight c.m. high when burning free, and the determination should be made in a place free from draughts. The upper surface of the cover should burn clear, but the under should remain covered with carbon. To find volatile combustible matter subtract

---

* Method of Committee of Am. Chem. Soc. on Coal Analysis.