

The sulphur determinations give the total amount of sulphur. They have been carried out on the undried samples by oxidizing the coal with potassium chlorate and nitric acid to clear the solution (with the exception of some ashy constituents). From the unusually great development of sulphurous acid in the combustion retort, it was estimated that by far the larger part of the sulphur is present as combustible compounds.

With regard to the mode of formation of the coal, fossil contents, literature, etc., reference may be made to N. Hartz: *Danmarks tertiære og diluviale Flora*, D. G. U. H. R., No. 20, København 1909.

### BORNHOLM

The Bornholm coal is only found in the narrow strip of Rhaetic-Liassic formations, which occurs on the south-west coast of the island, between the sea and the granite district. The coal is found in three systems: Leuka system, Bagaa system, and Sorthat system.

1. The Leuka system at Hasle colliery, ca. 2 km. S. of Hasle, consists of 17-19 layers which strike west to east and dip  $8^{\circ}$ - $14^{\circ}$  S.; the western parts of the layers are better and more regular than the eastern. The thickness of all the layers together is ca. 5 m.

2. The Bagaa system, at the mouth of Bagaa, consists of at least eight layers, with a strike N.E.-S.W.; nearest the coast the dip is  $3^{\circ}$ - $4^{\circ}$ , farther east  $10^{\circ}$ - $19^{\circ}$ . Under the layers mentioned come two other comparatively extensive layers, respectively 2 m. and 3 m. thick, of poor coal.

3. The Sorthat system consists of 18 layers, which strike N.N.W.-S.S.E. with a dip of  $45^{\circ}$ - $70^{\circ}$  E.N.E.; the dip is most considerable in the eastern part. The thickness of the layers altogether is ca. 5 m.

An analysis of the coal, made by Fr. Johnstrup in 1873, gave the following results:

|                  |           | AIR-DRIED COAL |     |       |      |                           | COAL FREE OF ASH<br>AND WATER |     |       | AVERAGE |     |       |
|------------------|-----------|----------------|-----|-------|------|---------------------------|-------------------------------|-----|-------|---------|-----|-------|
|                  |           | C              | H   | O & N | Ash  | Hygro-<br>scopic<br>Water | C                             | H   | O & N | C       | H   | O & N |
| Smederand        | Sorthat.. | 51.9           | 3.5 | 16.8  | 12.1 | 15.7                      | 71.9                          | 4.8 | 23.3  | 71.3    | 4.9 | 23.8  |
| Parrottrand      |           | 47.7           | 3.4 | 16.4  | 19.2 | 13.3                      | 70.7                          | 5.0 | 24.3  |         |     |       |
| Skillingrand     | Bagaa..   | 50.3           | 2.8 | 14.9  | 12.8 | 19.2                      | 74.0                          | 4.0 | 22.0  | 73.1    | 4.4 | 22.5  |
| Trealensrand     |           | 47.2           | 2.7 | 14.2  | 7.6  | 28.3                      | 73.6                          | 4.2 | 22.2  |         |     |       |
| Apothekerrand    |           | 44.5           | 3.1 | 14.6  | 4.4  | 33.4                      | 71.6                          | 4.9 | 23.5  |         |     |       |
| Kultórverand     | Hasle..   | 48.9           | 3.3 | 15.4  | 8.1  | 24.3                      | 72.3                          | 4.9 | 22.8  | 72.8    | 5.2 | 22.0  |
| Stenkulsrand     |           | 48.0           | 3.4 | 14.1  | 10.2 | 24.3                      | 73.2                          | 5.2 | 21.6  |         |     |       |
| Søndre Tykkerand |           | 42.6           | 3.0 | 13.1  | 19.8 | 21.5                      | 72.6                          | 5.1 | 22.3  |         |     |       |
| Smederand        |           | 44.6           | 3.5 | 12.9  | 18.5 | 20.5                      | 73.0                          | 5.8 | 21.2  |         |     |       |