

# CONTRIBUTIONS TO THE MINERALOGY OF NORWAY

## No. 4. New finds of coal blend

By

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In his paper entitled "Coal Blend and Uraniferous Hydrocarbon" (1956), DONS describes some twenty localities in the Oslo region where coal blend has been found. It may be of interest to record four new occurrences.

During a survey of the Permian sediments and lavas in the Lier-Asker region, about 20 kilometres WSW of Oslo, coal blend was found by the author at four localities; two in the rhomb porphyry and two in the basalt lava.

*Locality 1.* Along the path leading to Asdøltjernet from Asdøl, Lier. Here, about 100 metres up in the rhomb porphyry (RP<sub>1</sub>, Kolsås type), coal blend occurs associated with calcite in a vesicle. The coal blend forms small globules and ovoids within the calcite, varying in size from 5.0—0.1 mm. This association may be genetically related to the host lava, or to a nearby dike of rhomb porphyry.

*Locality 2.* North of Semsvannet, Asker, a road leads from Tveiter to Rustaden. By the road side near Mobråten coal blend was found together with calcite and fluorite in a vesicle in rhomb porphyry (RP<sub>1</sub>, Kolsås type). This find is in the middle of the lava flow. The coal blend is seen as globules ranging up to 2 cm in diameter, frequently veined by thin films of calcite which coat some conchoidal fracture surfaces in the coal blend. This veining has been noted in coal blend described from Semsvik, Asker by BUGGE and NEUMANN (1938).

The Mobråten specimen also reveals minute pockets of coal blend in the lava matrix and also small inclusions in the feldspar rhombs which are now partially decomposed to calcite. This mode of occurrence has not been recorded in previous studies on coal blend. Coal blend from this specimen has been subjected to X-ray analysis using the powder method, but, as is common, no pattern was obtained.

Locality 3. At Skytebanen near Bergsmarka, Asker, a small valley descends from the rhomb porphyry plateau, which here is underlain by a thin bed of sandstone and the basalt flow ( $B_1$ ). A vesicle collected from the basalt showed coal blend accompanied by calcite and quartz. Here the quartz coats the walls of the vesicle and it surrounds a core of calcite in which are embedded small globules of coal blend.

Locality 4. North of Semsvannet, at Hajum waterfall. The basalt ( $B_1$ ) outcrops here exposing a red, oxidised top surface. It is riddled with calcite and quartz vesicles. Coal blend occurs surrounded either by calcite or quartz. Occasionally it will form complete vesicles.

In all specimens studied the coal blend has the same properties as those recorded for other occurrences in the Oslo region. It is developed as small, rounded masses, jet black in colour, having a markedly good conchoidal fracture, and frequently exhibiting a vitreous lustre.

Thin sections of the samples from localities 1, 2 and 4 have been examined. The coal blend appears as opaque anhedral with curved faces against the host mineral.

Microscopic examination of the Asdøl specimen shows the presence of small fanlets of a chlorite apparently replacing the calcite. Small granules of coal blend form a semi-continuous wall to the vesicle, in addition to its development in the centre of the calcite. The rhombs of feldspar adjacent to the vesicle are fissured with small veins of coal blend.

In the thin section of the specimen from locality 2, coal blend is also seen to occur as small impregnations within the matrix of the rhomb porphyry.

J. A. Dons, who has kindly read this paper, informs me that since he wrote about coal blend (1956) he has visited new localities of this mineral and received from his colleagues information concerning several

other finds. These are all situated within an area which has been affected by Permian hydrothermal activity (the Oslo region and the adjoining Precambrian areas).

Dons mentions particularly two localities in Precambrian gneiss. One occurs at Nesodden, 8 kilometres SSW of Oslo in a road section near the farm Skoklefall. The coal blend was to a great extent crushed by faulting and it appears mainly as large quantities of black dust together with calcite.

The other locality is at Bjordammen near Kragerø, about 25 kilometres SW of the Oslo region. Here coal blend, associated with calcite, has been found in gneiss. The coal blend fragment, .3 cm in diameter, was evidently a part of a greater mass.

#### LITERATURE

- BUGGE, J. and NEUMANN H.: Et Funn av Kullblende i Essexitlava. Norsk Geol. Tidsskr. 18, 1938. (English summary).
- DONS, J. A.: Coal Blend and Uraniferous Hydrocarbon in Norway. Norsk Geol. Tidsskr. 36, 1956.
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